

Final

DE-PS01-86FE60966

**SOLICITATION NUMBER**

**CLEAN COAL TECHNOLOGY**



**DEPARTMENT OF ENERGY**  
**ASSISTANT SECRETARY, MANAGEMENT AND ADMINISTRATION**  
**PROCUREMENT AND ASSISTANCE MANAGEMENT**

**OFFICE OF PROCUREMENT OPERATIONS**

**OPENING DATE: FEBRUARY 17, 1986**

**CLOSING DATE: APRIL 18, 1986**

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES 1 8	
2. AMENDMENT/MODIFICATION NO. 1		3. EFFECTIVE DATE See Blk. 16C		4. REQUISITION/PURCHASE REQ. NO. 01-86FE60966.001		5. PROJECT NO. (If applicable)	
6. ISSUED BY U. Department of Energy Office of Procurement Operations 1000 Independence Avenue, S.W. Washington, D.C. 20585		7. ADMINISTERED BY (If other than Item 6) CODE		7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(y) 9A. AMENDMENT OF SOLICITATION NO. DE-PS01-86FE60966			
				9B. DATED (SEE ITEM 11) February 17, 1986			
				10A. MODIFICATION OF CONTRACT/ORDER NO.			
				10B. DATED (SEE ITEM 13)			
CODE		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required) N/A							
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
(y) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A. B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: D. OTHER (Specify type of modification and authority)							

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible)

The purpose of this amendment is to revise sections of the PON related to revenue sharing.

(continued on Attached)

15A. NAME AND TITLE OF SIGNER (Type or print)		15A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robert J. Walsh	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	15B. UNITED STATES OF AMERICA BY <u>Robert J. Walsh</u> (Signature of Contracting Officer)	15C. DATE SIGNED FEB 24 1986

Attached are change sheets for your loose leaf Program Opportunity Notice for the Clean Coal Technology Program (as issued in FINAL on February 17, 1986). A detailed listing of all changes as well as filing instructions follows. PLEASE REMOVE OBSOLETE PAGES AND REPLACE WITH THE APPROPRIATE CHANGE SHEETS.

<u>Remove/replace</u>	<u>Nature of Change</u>
p. vii	<u>No</u> changes.
viii	Changes page number for Section VI.4.
p. VI-5	Deletes the start of Section VI.4.
VI-6	Provides new text for Section VI.4, except for the last two lines on the page, that remain unchanged.
Appendix B, p. 7	<u>No</u> changes.
8	Provides new text for Article III(D), "Program Income/Revenue."

Use this label for Mailing

DEPARTMENT OF ENERGY  
OFFICE OF PROCUREMENT OPERATIONS  
ROOM 1J-005 - FORRESTAL BUILDING (MA-451)  
1000 INDEPENDENCE AVENUE, S.W.  
WASHINGTON, D.C. 20585

ATTN: DOCUMENT CONTROL SPECIALIST

Offer in Response to RFP No. \_\_\_\_\_  
Closing Date: \_\_\_\_\_ Closing Time: \_\_\_\_\_

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ATTN: DOCUMENT CONTROL SPECIALIST

**NOTICE TO COURIER:** It may not be possible to deliver this package to Room 1J-005 outside of the hours of 8:30 AM to 5:00 PM workdays. Delivery to any other location, including the central delivery area, may result in the late receipt in Room 1J-005 and is strongly discouraged.

Offer in Response to RFP No. \_\_\_\_\_  
Closing Date: \_\_\_\_\_ Closing Time: \_\_\_\_\_





Department of Energy  
Washington, DC 20585

PROGRAM OPPORTUNITY NOTICE FOR CLEAN  
COAL TECHNOLOGY DEMONSTRATION PROJECTS

FEB 17 1986

PON NUMBER DE-PS01-86FE60966

Prospective Offerors:

This Program Opportunity Notice (PON) is in response to the Clean Coal Technology (CCT) portion of Public Law No. 99-190, "An Act Making Appropriations for the Department of Interior and Related Agencies for the Fiscal Year Ending September 30, 1986, and for Other Purposes." Through this PON, the Department of Energy (DOE) is soliciting proposals for financial assistance required to conduct cost-shared CCT demonstration projects that will lead directly to accelerated commercial availability of these emerging technologies.

On January 30, 1986, a draft PON was issued and public comments were requested by February 6, 1986. The comments received were carefully reviewed and used in considering modifications to the original draft PON. Accordingly, Prospective Offerors are advised that the PON enclosed with this cover letter differs in numerous aspects from the draft PON.

Prospective Offerors are also advised that this PON is not an extension or duplication of the November 1984 "Program Announcement for Information Regarding Emerging Clean Coal Technologies," also known as the "Section 321" announcement. Proposals submitted in response to the earlier announcement will not be evaluated or used in any way with regard to the present PON, and prospective offerors are hereby instructed that they must submit a new proposal if they wish to be considered for financial assistance. (See SECTION III.26, "Previous Respondents to the Earlier "Clean Coal" Announcement.")

Argonne National Laboratory (ANL) is preparing for DOE a baseline environmental emissions profile. The data from this profile (and material submitted by proposers) will be used by DOE in preparing the Preselection Programmatic Environmental Impact Analysis. This ANL profile plus documentation specifying the sources of their data, and an explanation of how the data were assembled, will be accessible to the public after April 1, 1986, in the DOE Public Reading Room, Room 1E-190, Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C., 20585.

The following is a summary of the salient elements of this PON, but not an integral part of the enclosed PON. In the event of any conflict between this PON cover letter and the enclosed PON document, the data and information in the PON shall control.

Each project will consist of three phases: (1) Design and Permitting; (2) Construction and Startup ("Shakedown"), and (3) Operation, Data Collection,

Reporting, and Disposition. The period of performance is to be proposed by the offeror. (See SECTION IV.2.2(d) regarding already completed phases.)

Your proposal must be submitted in accordance with the instructions in SECTIONS III and IV. Each of the four proposal volumes should be bound separately. The proposals must be received at the place designated in SECTION III.5, "Time, Date, and Place Proposals Are Due," not later than 4:30 p.m. local time, Washington, D.C., on April 18, 1986.

A Preproposal Conference for this PON will be held on March 6, 1986, at 10:00 a.m. local Washington, D.C. time at the Departmental Auditorium, 1301 Constitution Avenue, N.W., located midway between 12th and 14th Streets, N.W., Washington, D.C., 20024. (Note: This is a different date, and a different location, than specified in the draft PON.) Details are provided in SECTION III.17, "Preproposal Conference," of the PON.

Only proposals that can meet the Qualification Criteria and other requirements as set forth in SECTION V.2, "Preliminary Evaluation," will be considered. Technical, Business and Management, and Cost evaluation criteria are provided in SECTIONS V.3.1, "Technical Evaluation Criteria," V.3.2, "Business and Management Evaluation Criteria," and V.3.3, "Cost Evaluation Criteria." The program policy factors applicable to this PON are described in SECTION V.3.5, "Program Policy Factors."

Depending on the evaluated potential of proposals submitted, one or more cooperative agreements may be awarded as a result of this PON.

This PON does not commit the Government to pay any costs incurred in connection with any proposal, to procure or contract for any services, or to provide financial assistance to any offeror. The Government reserves the right, without limitation, to accept or reject any or all proposals regardless of the terms of the original proposal, and to request additional clarifying information, including cost and pricing data.

DOE may award a cooperative agreement based on initial proposals received, without discussion of such proposals with the offerors. Therefore, each proposal to DOE should reflect the most favorable terms, from technical, cost, and business and management standpoints, that the offeror can submit.

Offerors are advised that a Clean Coal Technology project selected for financial assistance as a result of this PON will be subject to the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) and related DOE compliance procedures. Should an offeror's proposal be selected, the offeror will be asked to provide information to be used in preparing an environmental report to serve as the basis for an environmental assessment (EA) or an environmental impact statement (EIS). See SECTION III.27, "National Environmental Policy Act (NEPA) Strategy," for more information.

You are cautioned that certain proposal material submitted may become subject to disclosure to the public pursuant to the provisions of the Freedom of Information Act, as amended. See SECTION III.28, "Proprietary Data or Confidential Business Information."

All offerors are required to prepare and include in their proposals an abstract of the highlights of their proposed demonstration project, that may be released to the public at any time, in whole or in part. See SECTION IV.3.3, "Public Abstract."

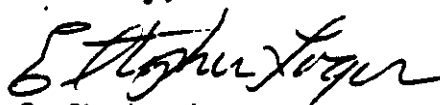
The designated Government Representative for this PON is Mr. E. Stephen Logan. All communications should cite the PON number and be directed to his attention at the address prescribed in SECTION III.4, "DOE Issuing Office," or by telephone call to (202) 252-1026.

DOE recognizes that a single offeror may not possess expertise and resources in every area covered by his proposal. Teaming and other arrangements are therefore permissible. See SECTION III.21, "Teaming Relationships," for details and requirements.

Your proposal must remain valid and authorize a period of time for acceptance by the Government of not less than 240 calendar days from the date specified above for receipt of proposals. Furthermore, you are cautioned that late proposals, modifications, and withdrawals will be treated in accordance with SECTION III.34, "Late Submissions, Modifications, and Withdrawals of Proposals."

Please complete the "Intention to Propose" form provided at Appendix M at the earliest practicable date. No other material should be returned if you do not intend to submit a proposal.

Sincerely,

A handwritten signature in dark ink, appearing to read "E. Stephen Logan", written in a cursive style.

E. Stephen Logan  
Procurement Member  
Source Evaluation Board

TABLE OF CONTENTS

	<u>PAGE</u>
COVER LETTER	i
I DEPARTMENTAL OBJECTIVE	I-1
1. INTRODUCTION AND BACKGROUND	I-1
2. PON OBJECTIVE	I-3
II PROGRAM GUIDELINES	II-1
III TERMS, CONDITIONS, AND NOTICES TO OFFERORS	III-1
1. CONTENT OF RESULTING AGREEMENT	III-1
2. PROGRAM OPPORTUNITY NOTICE (PON) NUMBER	III-1
3. DATE OF PON ISSUANCE	III-1
4. DOE ISSUING OFFICE	III-1
5. TIME, DATE AND PLACE PROPOSALS ARE DUE	III-2
6. AVAILABILITY OF FUNDS	III-2

7. OFFER ACCEPTANCE PERIOD	III-3
8. NUMBER OF AWARDS	III-3
9. SOLICITATION DEFINITIONS	III-3
10. AN EQUAL RIGHTS NOTE	III-4
11. ... LOANS FOR BID AND PROPOSAL PREPARATION...	III-4
12. INTENTION TO PROPOSE	III-5
13. FALSE STATEMENTS	III-6
14. EXPENSES RELATED TO OFFEROR SUBMISSIONS	III-6
15. AMENDMENT TO THE PON	III-6
16. ACKNOWLEDGEMENT OF AMENDMENTS TO THE PON	III-7
17. PREPROPOSAL CONFERENCE	III-7
18. NOTICE OF RIGHT TO REQUEST A PATENT WAIVER	III-8
19. CLASSIFIED MATERIAL	III-8
20. RESPONSIBLE PROSPECTIVE PARTICIPANTS	III-9
21. TEAMING RELATIONSHIPS	III-9
22. DISCUSSIONS AND/OR SITE VISITS WITH OFFERORS	III-11
23. INFORMATION OF AWARD	III-11
24. DISPOSITION OF PROPOSALS	III-11
25. DISPOSITION OF PON DOCUMENTS	III-11
26. PREVIOUS RESPONDENTS TO THE EARLIER "CLEAN COAL" PROGRAM ANNOUNCEMENT	III-12
27. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) STRATEGY	III-12
27.1 <u>PRE-SELECTION PROGRAMMATIC ENVIRONMENTAL IMPACT ANALYSIS</u>	III-13

27.2	PRE-SELECTION PROJECT-SPECIFIC ENVIRONMENTAL REVIEW	III-14
27.3	POST-SELECTION NEPA REVIEW	III-15
28.	PROPRIETARY DATA OR CONFIDENTIAL BUSINESS INFORMATION	III-16
29.	PREPARATION OF OFFERS	III-18
30.	PROPOSAL STRUCTURE AND PACKAGING	III-19
31.	PROPOSAL DELIVERY INFORMATION	III-21
32.	FUNDS TRANSFER	III-22
33.	UNNECESSARILY ELABORATE PROPOSALS	III-23
34.	LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF PROPOSALS	III-23
35.	EXPLANATION TO PROSPECTIVE OFFERORS	III-26
36.	FAILURE TO SUBMIT PROPOSAL	III-27
37.	AWARD OF FINANCIAL ASSISTANCE	III-27
38.	RIGHTS IN TECHNICAL DATA	III-28
39.	REPORTS TO CONGRESS	III-30
IV	PROPOSAL PREPARATION INSTRUCTIONS	IV-1
1.	PREPARATION OF VOLUME I: QUALIFICATION DISCUSSION	IV-1
2.	PREPARATION OF VOLUME II: TECHNICAL PROPOSAL	IV-4
2.1	DISCUSSION OF COMMERCIALIZATION FACTORS	IV-4
2.2	DISCUSSION OF DEMONSTRATION PROJECT FACTORS	IV-11

2.3	SUMMARY OF EXCEPTIONS, DEVIATIONS, AND ASSUMPTIONS	IV-24
3.	PREPARATION OF VOLUME III - BUSINESS AND MANAGEMENT	IV-24
3.1	GENERAL INSTRUCTIONS	IV-24
3.2	APPLICATION FORM AND ASSURANCE OF COMPLIANCE	IV-25
3.3	PUBLIC ABSTRACT	IV-26
3.4	PROJECT SUMMARY SHEET	IV-26
3.5	SUMMARY ENVIRONMENTAL DATA FOR THE COMMERCIALIZED TECHNOLOGY	IV-29
3.6	SPECIFIC BUSINESS AND MANAGEMENT DISCUSSION	IV-29
3.6.1	COMMITMENT TO PROJECT	IV-29
3.6.2	MANAGEMENT PLAN	IV-30
3.6.3	SUPPORT AVAILABILITY	IV-33
3.6.4	FINANCING PLAN	IV-33
3.6.5	FINANCIAL CONDITION AND CAPABILITY	IV-34
3.6.6	PROPOSING ENTITY PAST PERFORMANCE	IV-34
3.6.7	KEY PERSONNEL	IV-35
3.7	EXCEPTIONS AND DEVIATIONS	IV-35
4.	PREPARATION OF VOLUME IV: COST	IV-36
4.1	GENERAL INSTRUCTIONS	IV-36
4.2	FORMAT AND CONTENT	IV-40
V	QUALIFICATION AND EVALUATION CRITERIA, AND PROGRAM POLICY FACTORS	V-1
1.	INTRODUCTION	V-1

2.	PRELIMINARY EVALUATION	V-1
3.	COMPREHENSIVE EVALUATION	V-4
3.1	TECHNICAL EVALUATION CRITERIA	V-5
3.1.1	COMMERCIALIZATION FACTORS	V-6
3.1.2	DEMONSTRATION PROJECT FACTORS	V-7
3.1.3	RELATIVE IMPORTANCE OF TECHNICAL EVALUATION CRITERIA	V-8
3.2	BUSINESS AND MANAGEMENT EVALUATION CRITERIA	V-9
3.2.1	RELATIVE IMPORTANCE OF BUSINESS AND MANAGEMENT CRITERIA	V-10
3.3	COST EVALUATION CRITERIA	V-11
3.4	RELATIVE IMPORTANCE OF PROPOSAL VOLUMES	V-11
3.5	PROGRAM POLICY FACTORS	V-11
VI	GOVERNMENT FINANCIAL PARTICIPATION	VI-1
1.	AMOUNT OF COST-SHARING REQUIRED	VI-1
2.	PROJECT COSTS NOT ALLOWED FOR COST-SHARING PURPOSES	VI-1
3.	ALLOWABLE PROJECT COSTS FOR COST-SHARING PURPOSES	VI-3
4.	REVENUES AND RECOVERY OF GOVERNMENT'S INVESTMENT	VI-6
5.	COST OVERRUNS	VI-7
6.	FINANCIAL RECORDS	VI-7



APPENDICES

- A CONGRESSIONAL GUIDANCE
- B MODEL COOPERATIVE AGREEMENT ~~\_\_\_\_\_~~ *Read*
- C PROJECT SUMMARY SHEET
- D - not used -
- E FEDERAL ASSISTANCE APPLICATION FORM
- F ASSURANCE OF COMPLIANCE - NON-DISCRIMINATION IN  
FEDERALLY ASSISTED PROGRAMS
- G COST PROPOSAL FORMAT (SF 1411) AND EXHIBITS
- H UNIFORM REPORTING SYSTEM FOR FEDERAL ASSISTANCE
- I QUALIFICATION CRITERIA CERTIFICATIONS ~~\_\_\_\_\_~~ \*
- J INFORMATION REQUIREMENTS FOR NEPA

K SUMMARY ENVIRONMENTAL DATA FOR THE COMMERCIALIZED  
TECHNOLOGY

L ENERGY PROJECTION DATA

M "INTENTION TO PROPOSE" FORM

Received  
46

## SECTION I - DEPARTMENTAL OBJECTIVE

### 1. INTRODUCTION AND BACKGROUND

On December 19, 1985, Pub. L. No. 99-190, "An Act Making Appropriations for the Department of the Interior and Related Agencies for the Fiscal Year Ending September 30, 1986, and for Other Purposes" (the "Act"), was signed into law. This Act, among other things, provides funds to conduct cost-shared clean coal technology projects for the construction and operation of facilities that would demonstrate the feasibility of future commercial applications of such technology. This Program Opportunity Notice (PON) is issued in accordance with the requirements of that Act.

The Act makes available a total of \$397.6 million for this program, as follows: \$99.4 million in fiscal year 1986, \$149.1 million in fiscal year 1987, and \$149.1 million in fiscal year 1988. Of these monies, \$25 million will be held in reserve to cover the cost of overruns in the event that the Government agrees to share such costs. In addition, \$4.9 million will be reprogrammed for the Small Business and Innovative Research Program, and unavailable to the Clean Coal Technology Program. Also, funds will be set aside for contracting, travel, and ancillary costs incurred by the Department of Energy (DOE) for implementation of the Clean Coal Technology Program. All of the remaining monies will be available for award under this PON.

The Act requires that DOE issue a "general request for proposals" for the Clean Coal Technology Program within 60 days of the date of enactment, provides 60 days from issuance of that request for the

proposals to be submitted, and requires the selection of projects for negotiation not later than August 1, 1986. Pub. L. No. 99-190 also specifically addresses levels and forms of cost-sharing applicable to projects proposed under this PON. See SECTION VI, "Government Financial Participation." The legislative history of Pub. L. No. 99-190 suggests project selection criteria for consideration in the development of this PON. In particular, Senate Report 99-141 cites with approval the guidance on selection criteria embodied in Conference Report 99-236 and Senate Report 99-82, both of which accompanied the Supplemental Appropriations Act of 1985, Pub. L. No. 99-88.

The Clean Coal Technology Program is related to, but not a direct continuation of, the effort that was undertaken by DOE pursuant to Section 321, Pub. L. No. 98-473, 98 Stat. 1874. (See SECTION III.26, "Previous Respondents to the Earlier Clean Coal Announcement.") Section 321 directed the Secretary of Energy to solicit "statements of interest in, and proposals for projects employing emerging clean coal technologies," analyze the information received, and submit a report to Congress that "assesses the potential usefulness of each emerging clean coal technology ... and ... identifies the extent to which federal incentives, including financial assistance, will accelerate the commercial availability of these technologies." In response to the November 27, 1984, Program Announcement, 49 Fed. Reg. 46696 (1984), DOE received one hundred and seventy-five submissions with project values totaling over \$8 billion. On May 1, 1985, DOE submitted its findings in the "Report to Congress on Emerging Clean Coal Technologies" (DOE/S-0034).

On May 8, 1985, in testimony before the House Committee on Science and Technology, Subcommittee on Energy Development and Applications, DOE agreed to prepare a supplemental report that would further characterize the emerging clean coal technologies discussed in the May 1, 1985, report. DOE subsequently submitted the "Supplemental Report to Congress on Emerging Clean Coal Technologies" (DOE/MC/22121-1) in September 1985.

Excerpts from the aforementioned legislation and accompanying Congressional committee reports are provided in Appendix A, "Congressional Guidance."

## 2. PON OBJECTIVE

The specific objective of this PON is to solicit proposals to conduct cost-shared clean coal technology projects to demonstrate the feasibility of these technologies for future commercial applications.

## SECTION II - PROGRAM GUIDELINES

The following program guidelines are provided to increase the proposer's understanding of the Clean Coal Technology Program and to assist in the preparation of proposals.

1. The projects in this program will be industry projects assisted by the Government. The Congress has stipulated that Government funding shall not exceed 50% of project cost. Further guidance on financial participation is contained in SECTION VI of this PON.
2. The PON is open to all market applications of clean coal technology that apply to any segment of the United States coal resource base. This includes applications for utilities, industry (including steel and iron ore processing), commercial and residential markets, and transportation.
3. The PON is open to both "new" and "retrofit" applications, whether intended to displace oil and natural gas or to utilize coal more cleanly, efficiently, and/or economically than presently available technology.

4. Examples of "emerging clean coal technologies" include, but are not limited to, the following technologies or combinations that include one or more of these technologies:

(a) Advanced Coal Cleaning

(b) Coal Slurries

(c) Post-Combustion Cleanup

(d) In-Boiler Control of Oxides of Sulfur and Nitrogen

(e) Fuel Cells

(f) Heat Engines, including:

- Coal Fired Diesels
- Coal Fired Turbines

(g) Fluidized Bed Combustion

(h) Gasification, including:

- Underground
- Combined cycle (turbine)
- Synthesis or fuel gas production

(i) Advanced Combustors

(j) Liquefaction

(k) Hot Gas Stream Cleanup

(l) Magnetohydrodynamics (MHD)

(m) Advanced Industrial Processes (e.g., Steel and iron ore processing)



SECTION III - TERMS, CONDITIONS, AND NOTICES TO OFFERORS

1. CONTENT OF RESULTING AGREEMENT

Any agreement resulting from this PON will be a cost-shared Cooperative Agreement based on the Model Cooperative Agreement provided as Appendix B.

2. PROGRAM OPPORTUNITY NOTICE (PON) NUMBER

DE-PS01-86FE60966

3. DATE OF PON ISSUANCE

February 17, 1986

4. DOE ISSUING OFFICE

Department of Energy  
Office of Procurement Operations  
Contract Operations Division "A" (MA-452.1)  
Room Number 1I-065  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

Point of Contact: E. Stephen Logan (Procurement Member, Source  
Evaluation Board)

Telephone: (202) 252-1026

5. TIME, DATE AND PLACE PROPOSALS ARE DUE

Proposals must be received at:

U.S. Department of Energy  
Office of Procurement Operations  
Forrestal Building, Room 1J-005  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585  
ATTN: Document Control Specialist (MA-451)

by NO LATER THAN 4:30 P.M., Washington, D.C., time, on April 18, 1986. This Program Opportunity Notice (PON) contains preprinted labels that should be used for mailing or hand delivering proposals. (CAUTION: See SECTION III.34, "Late Submissions, Modifications, and Withdrawals of Proposals.")

6. AVAILABILITY OF FUNDS

The Government's share of any resulting project costs is subject to the availability of funds. Funding for Cooperative Agreements will be provided on an incremental basis. Currently, funds have been made available for this program for Fiscal Years 1986 through 1988. These funds will be available to cover obligations in accordance with the allocations provided in Pub. L. No. 99-190. Under the Act, funds

appropriated for this program will remain available until expended. However, cost-sharing by the Government is contingent upon the continued availability of appropriated funds for this program.

7. OFFER ACCEPTANCE PERIOD

The minimum offer acceptance period must be 240 days after the deadline for receipt of proposals, as stated in SECTION III.5, "Time, Date, and Place Proposals are Due."

8. NUMBER OF AWARDS

It is anticipated that there will be multiple awards resulting from this solicitation.

9. SOLICITATION DEFINITIONS

"Offer" means "proposal." "Offeror" means "proposer." "Solicitation" refers to this Program Opportunity Notice (PON). "Contractor" refers to Participant, and "Contract" refers to the resulting Cooperative Agreement. "Participant" means the selected offeror who signs the Cooperative Agreement. The use of the term "subcontractor" in any of the provisions means contractor to the participant and all tiers of subcontractor thereunder.

10. AN EQUAL RIGHTS NOTE

Wherever, in the solicitation or cooperative agreement, "man," "men," or their related pronouns may appear, either as words or as parts of words (and other than with obvious reference to named male individuals), they have been used for literary purposes and are meant in their generic sense (i.e., to include all humankind - both female and male sexes).

11. NOTICE OF POSSIBLE AVAILABILITY OF LOANS FOR BID AND PROPOSAL PREPARATION BY MINORITY BUSINESS ENTERPRISES SEEKING DOE CONTRACTS AND ASSISTANCE (10 C.F.R. 800; 46 Fed. Reg. 44686 and 48 Fed. Reg. 17573) (1984)

Section 211 of the DOE Organization Act (42 U.S.C. 7141) authorizes DOE to provide loans to minority business enterprises to assist them in their efforts to participate in DOE acquisition and assistance programs. The loans are to enable the preparation of bids or proposals for DOE contracts and assistance awards and for first- and second-tier subcontracts with DOE operating contractors.

The loans are limited to 75% of the allowable costs incurred in preparing such proposals. The award of these loans is subject to the availability of appropriations.

DOE does not warrant that such loans can be made available in sufficient time to prepare a proposal for this solicitation. This loan program includes provisions for a preliminary review of the application for proposal preparation assistance in advance of a specific loan request.

Information regarding loan availability, eligibility criteria, and how to apply may be obtained from:

San Francisco Operations Office, U.S. DOE  
1333 Broadway  
Oakland, California 94612  
Attn: Minority Loan Program Office  
(415) 273-6403

12. INTENTION TO PROPOSE

Please complete the "Intention to Propose" form in Appendix M of this PON and mail it to the address provided on the form by the earliest practical date.

13. FALSE STATEMENTS

Proposals must set forth full, accurate, and complete information as required by this PON (including all appendices and attachments).

The penalty for making false statements in proposals is prescribed in 18 U.S.C. 1001.

14. EXPENSES RELATED TO OFFEROR SUBMISSIONS

This PON does not commit the Government to pay any costs incurred in the preparation or submission of any proposal, including, but not limited to, studies or designs necessary for the preparation thereof, or to acquire or contract for any services.

15. AMENDMENT TO THE PON

The only method by which any term of this PON may be modified is by an express, formal amendment to the PON generated by the issuing office. No other communication made at any scheduled preproposal conference or during discussions, whether oral or in writing, will modify or supercede the terms of this PON. Receipt of an amendment to the PON by an offeror must be acknowledged in accordance with SECTION III.16, "Acknowledgement of Amendments to the PON."

16. ACKNOWLEDGEMENT OF AMENDMENTS TO THE PON

Offerors shall acknowledge receipt of any amendment to this PON (a) by signing and returning the amendment; or (b) by letter or telegram. The Government must receive the acknowledgement prior to the time and date specified for receipt of offers.

17. PREPROPOSAL CONFERENCE

A Preproposal Conference for this PON will be held on March 6, 1986, at 10:00 a.m. local Washington, D.C. time in the "Departmental Auditorium" in Washington, D.C. (not at the Forrestal Building; see the address at the end of this section). The purpose is to permit prospective offerors the opportunity to gain a better understanding of the objectives and requirements of this PON. Questions related to the PON should be submitted in writing to the Source Evaluation Board Procurement Member designated in the PON cover letter, and should be received by him not later than February 28, 1986. Seating will be available on a first come, first served basis.

The auditorium at which the Preproposal Conference will be held is located as follows:

Departmental Auditorium

1301 Constitution Avenue, N.W.

Halfway between 12th and 14th Streets, N.W.

Washington, D.C. 20024

18. NOTICE OF RIGHT TO REQUEST A PATENT WAIVER

In accordance with applicable statutes and the Department of Energy Financial Assistance Regulations, offerors that are not small businesses or nonprofit organizations have the right to request, in advance or within 30 days after the effective date of the Cooperative Agreement, a waiver of all or any part of the rights of the United States in subject inventions.

Small businesses and nonprofit organizations need not request a waiver. The Patent Rights Clause provided in 10 C.F.R. 600.118(b)(1), which permits the recipient of financial assistance to elect to retain title of subject inventions, will be included in the cooperative agreements of small businesses and nonprofit organizations.

19. CLASSIFIED MATERIAL

Performance under the proposed award is not anticipated to involve access to classified material.



## 20. RESPONSIBLE PROSPECTIVE PARTICIPANTS

- (a) The general and additional minimum standards for responsible prospective participants set forth at 48 CFR 9.1 and 48 CFR 909.104-70 are applicable to this solicitation.
- (b) DOE may conduct preaward surveys in accordance with 48 CFR 9.106; solicit, from available sources, relevant information concerning the offeror's record of past performance; and use such information in making determinations of prospective offeror responsibility.

## 21. TEAMING RELATIONSHIPS

Due to the diversity of experience and resources that may be required for a specific project, proposals will be accepted from teaming arrangements such as partnerships, joint ventures, and other combinations, as well as from entities employing the more traditional subcontract relationships. The combined experience and resources of all participants, as well as the resources committed by the parent or sponsoring firms, will be considered for evaluation purposes. In addition, DOE may require a guarantee of performance from the parent and/or sponsoring firms.

If a teaming arrangement is proposed, the offeror will be required to provide the following as provided in SECTION IV.1(f), the "Teaming Agreement" portion of the Qualification Discussion, and SECTION IV.3.6.2, "Management Plan":

- (a) A letter of intent or executed teaming agreement from all parties sufficiently binding to ensure the formation of the proposed legal entity.
- (b) An explanation of the precise nature and form of the teaming relationship, including a discussion of the responsibilities of each party.
- (c) Identification of the specific organization and individual that will be directly responsible for the success of the proposed project.
- (d) Information, with supporting documentation, to verify and demonstrate the team's capability of providing the financial and other resources necessary to support the project over its entire proposed period of performance.

22. DISCUSSIONS AND/OR SITE VISITS WITH OFFERORS

Written or oral discussions, or site visits, may be conducted with any or all of the offerors. Offerors will be notified of the date, time, and place for any oral discussions or site visits.

23. INFORMATION OF AWARD

Written notice will be provided to unsuccessful offerors and cooperative agreement award information will be provided to all offerors.

24. DISPOSITION OF PROPOSALS

Except for proposals that are withdrawn in accordance with SECTION III.34, "Late Submissions, Modifications, and Withdrawals of Proposals," proposals will not be returned.

25. DISPOSITION OF PON DOCUMENTS

Drawings, specifications, and other documents supplied by DOE with the PON may be retained by the offeror, except for documents that are required to be completed and returned as a part of the proposal.

26. PREVIOUS RESPONDENTS TO THE EARLIER "CLEAN COAL" PROGRAM ANNOUNCEMENT

Prospective Offerors are advised that this PON is not an extension or duplication of the November 1984 "Program Announcement for Information Regarding Emerging Clean Coal Technologies," also known as the "Section 321" announcement. Proposals submitted in response to the earlier announcement will not be evaluated or considered in any way with regard to this PON. Prospective offerors are hereby instructed that they must submit a new proposal if they wish to be considered for financial assistance.

27. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) STRATEGY

An overall strategy for compliance with the National Environmental Policy Act (NEPA) has been developed for the Clean Coal Technology Program, consistent with the Council on Environmental Quality (CEQ) NEPA regulations (40 CFR 1500-1508) and the DOE guidelines for compliance with NEPA (45 Fed. Reg. 20, 694 (1980)). This strategy includes both programmatic and project-specific environmental impact considerations, during and subsequent to the selection process. However, in light of the extremely tight schedule imposed by the Clean Coal Technology legislation (Pub. L. No. 99-190), some modification will be necessary to the normally applicable documenta-

tion and public review requirements. Moreover, the confidentiality requirements of the competitive PON process place certain restrictions on the NEPA review.

Therefore, DOE proposes to follow alternative procedures to ensure that environmental factors are fully evaluated and integrated into the decision making process to satisfy its NEPA responsibilities. Offerors shall submit both programmatic and project-specific environmental data and analyses as a discrete part of their proposal. DOE will independently evaluate the environmental data and analyses submitted by offerors, to the maximum extent possible, and will develop supplemental information as necessary for reasoned decision making. The major elements of this NEPA strategy are discussed below.

27.1 Pre-Selection Programmatic Environmental Impact Analysis:

DOE will prepare a comparative programmatic environmental impact analysis, based on information provided by the offerors and supplemented by DOE, as necessary. This environmental analysis will be provided to the Source Selection Official to ensure that relevant environmental consequences of the Clean Coal Technology Program and reasonable programmatic alternatives are evaluated in the selection process. The analysis will include

the projected changes to environmental emissions in the U.S. and regionally within the U.S. if each technology proposed were to meet its anticipated U.S. market potential. The projected environmental impacts of anticipated commercialization of the candidate technologies will be discussed. Such discussion will address, in qualitative terms, unresolved environmental issues, identify areas where important environmental information is incomplete or unavailable, and evaluate tradeoffs between short-term and long-term effects, to the maximum extent possible.

To enable DOE to perform this analysis, offerors shall complete and submit with their proposal, as part of Volume III, Business and Management Proposal, the forms provided in Appendix K, "Summary Environmental Data for the Commercialized Technology," using that information deemed to best characterize the commercial version of the clean coal technology being proposed.

#### 27.2 Pre-Selection Project-Specific Environmental Review:

For proposals that meet the qualification criteria, DOE will prepare and consider before the selection of proposals an environmental impact analysis which will focus on environmental issues pertinent to decision making. Such analysis will summarize

the strengths and weaknesses of each proposal against the environmental evaluation criteria including, to the maximum extent possible, a discussion of alternative sites and/or processes reasonably available to the offeror; a brief discussion of the environmental impacts of each proposal; practicable mitigating measures; and, to the extent known, a list of permits which must be obtained in implementing the proposal.

This environmental impact analysis will be provided to the Source Selection Official. In addition, DOE will document the consideration given to environmental factors in a publicly available selection statement to record that the relevant environmental consequences of reasonable alternatives have been evaluated in the selection process. This selection statement will be filed with the Environmental Protection Agency, in accordance with the DOE NEPA guidelines.

### 27.3 Post-Selection NEPA Review:

Upon award of federal financial assistance under this PON, offerors will be required to submit the environmental information specified in Appendix J. This detailed site- and project-specific information will be used as the basis for site-specific NEPA documents to be prepared by DOE for each selected project. Such NEPA documents

shall be prepared, considered, and published in full conformance with the requirements of 40 CFR Parts 1500-1508 and in advance of a go/no-go decision to proceed beyond preliminary design. Since federal funds from the Clean Coal Technology Program will not be provided for detailed design, construction, operation and/or dismantlement until the NEPA process has been successfully completed, offerors at their own risk may choose to begin preparation of this material early so that delay can be avoided. See SECTION VI.3, "Allowable Project Costs for Cost-Sharing Purposes."

In addition to the requirements discussed above, each cooperative agreement entered into will require an environmental monitoring plan to ensure that significant site- and technology-specific environmental data are collected and disseminated.

28. PROPRIETARY DATA OR CONFIDENTIAL BUSINESS INFORMATION

The proposal submitted in response to this solicitation may contain technical data and other data, including trade secrets and privileged or confidential commercial or financial information, that may be exempt from public disclosure. To help DOE to identify such data, the proposer must specifically identify each page, including each line or paragraph thereof, containing data that the offeror



would like withheld from public disclosure to the extent permitted by law, and must mark the cover sheet of the proposal with the following notice:

NOTICE

The data contained on pages \_\_\_\_\_ of this proposal have been submitted in confidence and contain trade secrets and/or privileged or confidential commercial or financial information, and such data shall be used or disclosed only for evaluation purposes, provided that if a cooperative agreement is awarded to this proposer as a result of or in connection with the submission of this proposal, the Government shall have the right to use or disclose data herein to the extent provided in the cooperative agreement. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the proposer.

Mark each and every sheet that contains data that you wish to restrict with the following legend:

"Use or disclosure of the proposal data in lines specifically identified by asterisk (\*) are subject to the restriction on the title page of this proposal."

In the event any data contained in a proposal submitted in response to this PON are requested pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. 552, such requests will be reviewed in accordance with the procedures provided in 10 CFR 1004.11 (1984). Prior to

disclosure of information, DOE may request additional information from the proposer, including an explanation of why he believes information included in the proposal is exempt from disclosure under the FOIA. Prompt action and cooperation by the proposer will ensure that DOE has all the information necessary to determine whether disclosure is required by the FOIA.

29. PREPARATION OF OFFERS

- (a) Offerors are expected to examine the entire contents of this PON, including all instructions. The offeror assumes the risk of failure to comply with all the provisions of this PON.
- (b) Each offeror shall furnish the information required by this PON. The offeror shall complete and sign the Financial Assistance Application Form (Appendix E) in accordance with the accompanying instructions. Erasures or other changes must be initialed by the person signing the offer. Offers signed by an agent shall be accompanied by evidence of that agent's authority.

### 30. PROPOSAL STRUCTURE AND PACKAGING

Proposals are expected to conform to the PON provision entitled "Proposal Delivery Information" (SECTION III.31), and be prepared in accordance with the instructions provided below. To aid in evaluation, proposals shall be clearly and concisely written, as well as being neat, indexed (cross-indexed as appropriate), and logically assembled. The proposal shall be typed, double spaced, un-reduced in size, on 8 1/2" by 11" paper. Illustrations should be legible, and foldouts shall, in general, be held to 11" by 17" size. All pages of each part shall be appropriately numbered, and each part shall contain the name of the offeror, the date, and the PON number.

Each offer shall be prepared in four volumes:

Volume I - Qualification Discussion

Volume II - Technical Proposal

Volume III - Business & Management Proposal

Volume IV - Cost Proposal

Project cost data shall be excluded from the technical proposal except for the limited amount of cost data needed to clarify and verify

such aspects as marketability and design decisions. Each of the proposal volumes shall be physically separate, and entitled as listed below. The required number of copies of each proposal volume and the required packaging and grouping are as follows:

<u>Proposal Volume</u>	<u>Title</u>	<u>Total Copies Required</u>	<u>To Be Packaged as Follows:</u>		
			<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>
Volume I:	Qualification Discussion	15	1	13	1
Volume II:	Technical Proposal	15	1	13	1
Volume III:	Business & Management Proposal	15	1	13	1
Volume IV:	Cost Proposal	15	1	12	2

Note: All documents that contain original signatures are to be included as Group 1.

Each group, designated above, must be packaged individually. This does not preclude assembling more than one, or all, of the groups in a single overall package. Mark the group number on the outside of each package.

External markings for each group and place for submission are indicated on the attached labels. In accordance with SECTION III.31, "Proposal Delivery Information," the offeror must provide the information required on the labels, including his return address.

31. PROPOSAL DELIVERY INFORMATION

(a) Signed Originals.

Group No. 1 of the proposal, as explained in SECTION III.30, "Proposal Structure and Packaging," shall contain the signed originals of all documents requiring signature by the offeror. Use of reproductions of signed originals is authorized in all subsequent copies of the proposal.

(b) Proposal Delivery.

The offeror assumes full responsibility for ensuring that the proposal is received by the date and time specified in SECTION III.5, "Time, Date, and Place Proposals are Due." If not sent by the U.S. mail, proposals must be closed and sealed as if for mailing. See also SECTION III.34, "Late Submissions, Modifications, and Withdrawals of Proposals."

(c) Labels.

Labels are enclosed for use when submitting your proposal and amendments thereto. The packages used to submit your proposal (and any amendments thereto) should be marked as shown on the attached labels. The offeror must complete the blanks on the labels for the PON Number, the closing time and date, and a return address. Note that one label should be used if the proposal is mailed and a different label should be used if the proposal is hand-delivered.

(d) Telegraphic Offers.

Telegraphic offers will not be considered; however, proposals may be modified by written or telegraphic notice, if that notice is received by the time specified for receipt of proposals.

32. FUNDS TRANSFER

Payment for amounts invoiced under any award resulting from this solicitation will be made either by Treasury check or by electronic funds transfer. The latter will be made through the Treasury Financial Communications Systems (TFCS) to a designated financial institution. At the time of payment, the Government will determine the method of payment in accordance with applicable Department of Treasury requirements.

Under the TFCS, payments can be made to financial institutions that have access to the Federal Reserve Communications System (FRCS) or, through correspondent financial institutions or Federal Reserve Banks, to financial institutions that do not have access to the FRCS. TFCS payments will be accompanied by information messages regarding the invoice being paid and the participant's account number at the financial institution.

Participants will be required to provide the payee bank account information required to make TFCS payments.

33. UNNECESSARILY ELABORATE PROPOSALS

Unnecessarily elaborate brochures or other presentations beyond those sufficient to present a complete and effective response to this PON are not desired and may be construed as an indication of the offeror's lack of cost consciousness. Elaborate art work, expensive paper and bindings, and expensive visual and other presentation aids are neither necessary nor desired.

34. LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF PROPOSALS

- (a) Any proposal received at the office designated in the PON after the exact time specified for receipt will not be considered unless it is received before award is made and it:

- i. Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 18th of the month must have been mailed by the 13th);
  - ii. Was sent by mail and it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation; or
  - iii. Is the only proposal received.
- (b) Any modification of a proposal or quotation, except a modification resulting from a request for "best and final" offer, is subject to the same conditions as in subparagraphs (a)(i) and (ii) above.
- (c) A modification resulting from a request for "best and final" offer received after the time and date specified in the request will not be considered unless received before award and the late receipt is due solely to mishandling by the Government after receipt at the Government installation.



- (d) The only acceptable evidence to establish the date of mailing of a late proposal or modification sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark on the wrapper or on the original receipt from the U.S. or Canadian Postal Service. If neither postmark shows a legible date, the proposal, quotation, or modification shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors or quoters should request the postal clerks to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.
- (e) The only acceptable evidence to establish the time of receipt at the Government installation is the time/date stamp of that installation on the proposal wrapper or other documentary evidence of receipt maintained by the installation.
- (f) Notwithstanding paragraph (a) above, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

(g) Proposals may be withdrawn by written notice or telegram (including mailgram) received at any time before award.

Proposals may be withdrawn in person by an offeror or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the proposal before award.

### 35. EXPLANATION TO PROSPECTIVE OFFERORS

A prospective offeror who would like an explanation or interpretation of this PON must submit a written request for such explanation or interpretation to the Procurement Board Member in time to allow the reply to reach all prospective offerors before the submission of their offers. In order to ensure that requests for explanation or interpretation will be considered, the requests actually must be received by the Procurement Board Member by 3:30 p.m., Washington, D.C., time, on April 4, 1986. Oral explanations or instructions provided before the award of the cooperative agreement are not binding. Any information given to a prospective offeror concerning this PON will be furnished promptly to all other prospective offerors as an amendment of the PON, if that information is necessary in submitting offers or if the lack of it would be prejudicial to any other prospective offerors.

36. FAILURE TO SUBMIT PROPOSAL

Recipients of this PON who choose not to submit a proposal should not return this PON. However, they should indicate by letter or postcard to the Procurement Board Member whether they want to receive future solicitations for similar requirements. If a recipient does not submit an offer and does not so notify that future solicitations are desired, the recipient's name may be removed from the applicable mailing list. Accordingly, it is essential that recipients complete and return the "Intention to Propose" form provided as Appendix M of this PON.

37. AWARD OF FINANCIAL ASSISTANCE

- (a) The Government intends to provide financial assistance through cost-shared cooperative agreements resulting from this PON to those responsible offerors who submit proposals which conform to this PON and are determined to be most advantageous to the Government following consideration of the evaluation criteria and program policy factors as specified in this PON.
- (b) The Government may (1) reject any or all offers, (2) accept for support any proposal, in whole or in part, and (3) waive informalities and minor irregularities in offers received.

- (c) The Government may award financial assistance on the basis of initial offers received, without discussions. Therefore, each initial offer should contain the offeror's best possible terms from technical, cost, and business and management standpoints.
- (d) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding agreement without further action by either party. Before the offeror's specified expiration time (see SECTION III.7, "Offer Acceptance Period"), the Government may accept an offer whether or not there are discussions after its receipt, unless a written notice of withdrawal is received before award.
- (e) If the resulting agreement contains a clause providing for price reduction for defective cost or pricing data, the negotiated cost (including the Government's cost-share) will be subject to reduction if cost or pricing data furnished are incomplete, inaccurate, or not current.

### 38. RIGHTS IN TECHNICAL DATA

The section of this PON that describes the work to be performed also sets forth DOE's known requirements for technical data.

The Additional Technical Data Requirements clause (see Appendix B, "Model Cooperative Agreement") provides the Government

with the option to order additional technical data, the requirements for which are not known at the time of agreement. There is, however, a built-in limitation on the kind of technical data that may be required. This limitation clause provides that the offeror may withhold delivery of proprietary data. This withholding of proprietary data is the primary means by which the offeror may protect his proprietary position. There are, however, two situations where the Government may need to have limited access to a participant's proprietary data. First, paragraph (f) of the Rights in Technical Data (long form) clause (see Appendix B, "Model Cooperative Agreement") gives the Contracting Officer's representatives the limited right to inspect, at the participant's facility, the participant's proprietary data which were withheld from delivery, for the purpose of verifying that such data were properly withheld or to evaluate work performance. The second situation is provided in optional paragraph (g) of the Rights in Technical Data (long form) clause. When used, optional paragraph (g) provides the Government the right to require the participant to furnish with limited rights proprietary data previously withheld. In this situation, the limited rights in proprietary data and the Government's obligation for limited use and disclosure of such data provide the means by which the participant protects his proprietary position. Paragraph (g) will be used where it is determined that for programmatic reasons there is a need for the delivery of proprietary data to the Government. To assist in making this programmatic determination, it is necessary that your proposal state

that the work to be performed and the known requirements for technical data as set forth in this PON have been reviewed, and, as discussed in SECTION IV.2.2(d), either state that, to the best of your knowledge, no data will be withheld, or submit a list identifying the proprietary data that, to the best of your knowledge, will likely be used, acquired, or otherwise obtained in the course of project performance and will be withheld.

39. REPORTS TO CONGRESS

Pub. L. No. 99-190 and its legislative history provide that DOE prepare and submit to Congress the following two reports associated with the proposals received and selections made as a result of this PON:

- (1) After projects are selected, a comprehensive report on the proposals received, and
- (2) A full and comprehensive report on each project selected, including the facts and circumstances relied upon in support of the proposed project, which must be submitted to Congress at least 30 calendar days prior to the execution of any cooperative agreement to be entered into as a result of this PON.

## SECTION IV - PROPOSAL PREPARATION INSTRUCTIONS

NOTE: To facilitate evaluation, proposers are to organize their proposals to correspond precisely to the proposal preparation instructions in SECTIONS IV.1, IV.2, IV.3, and IV.4, which correspond to the evaluation criteria in SECTIONS V.2, V.3.1, V.3.2, and V.3.3 of this PON.

### 1. PREPARATION OF VOLUME I: QUALIFICATION DISCUSSION

The preparation of this volume is extremely important. If the proposal does not meet the requirements identified in SECTION V.2, "Preliminary Evaluation," the proposal shall not undergo comprehensive evaluation. The offeror must address each of the Qualification Criteria listed in SECTION V.2(a) of this PON and clearly show how the proposal meets the qualifications. The discussion should be sufficient unto itself for a determination as to whether or not the proposal meets the Qualification Criteria. DOE has no obligation to refer to other volumes if the discussion provided in Volume I does not show that the Qualification Criteria have been clearly and unambiguously met. For those criteria that require the completion of the certification forms provided in Appendix I of this PON, these forms must be submitted in this Volume. Such certifications must be completed and signed by an individual with authority to represent and bind the offering organization. The information required to satisfy the Qualification Criteria is indicated below:

(a) LOCATION OF DEMONSTRATION

The demonstration project or facility must be located in the United States. The offeror must clearly show that the location proposed will be within the United States. Information should be included to indicate the state, county, and municipality (if applicable) in which the project or facility will be located.

(b) USE OF U.S. COALS

The proposed project or facility shall be designed for and operated with coal(s) mined in the United States. The proposer must provide a description of the type and source of coal(s) sufficient to indicate that the coals to be utilized are mined in the United States.

(c) COST-SHARING

The proposer must complete the certification form contained in Appendix I of the PON and include it in Volume I of the proposal to confirm that Government cost-sharing will not exceed 50 percent of the total project cost and that not more than 50 percent of the funds required in each of the three phases, Design and Permitting, Construction and Startup ("Shakedown"), and Operation, Data Collection, Reporting, and Disposition, will be requested from the Government.



(d) SITE AVAILABILITY

The proposer must provide firm evidence that the proposed project site is either owned by the offeror and is available or that the offeror will have use of the site for the duration of the project. This requirement may be met by providing a copy of title to the property, a firm lease or option, or other legally binding documentation concerning site availability.

(e) CLEAN AIR ACT COMPLIANCE

The proposer must complete and sign the certification form contained in Appendix I of this PON concerning compliance of the proposed technology, alone or in conjunction with other technologies, with the Clean Air Act. This certification will indicate that, as a minimum, the proposed technology in the specified market application will be capable of complying with the requirements of the Clean Air Act as amended, and with the relevant regulations promulgated thereto, in regions of the United States where commercialization of the technology is contemplated.

(f) TEAMING AGREEMENT

If a teaming arrangement is proposed, the proposer must provide a letter of intent or executed teaming agreement from all parties sufficiently binding to ensure the formation of the proposed legal entity. All documents legally establishing the entity will be required prior to execution of the Cooperative Agreement.

## 2. PREPARATION OF VOLUME II: TECHNICAL PROPOSAL

The text below identifies the information needed by DOE to evaluate the proposal according to the criteria contained in SECTION V.3.1, "Technical Evaluation Criteria."

The Technical Evaluation Criteria are divided into two major categories. The first, "Commercialization Factors," addresses the projected commercialization of the proposed technology. This is different from the proposed demonstration project itself. It deals with all of the other steps and factors involved in the commercialization process.

The second major category, "Demonstration Project Factors," recognizes the fact that the proposed demonstration project represents the critical step between "pre-demonstration" scale of operation and commercial readiness, and deals with the proposed project itself.

### 2.1 Discussion of Commercialization Factors:

The technical proposal (Volume II) must contain a narrative discussion of, and supporting data and analyses for, the commercialization factors described below.

The purpose of this discussion is to demonstrate the degree to which the proposal satisfies these criteria and to document the relevant data and/or analyses that substantiate the anticipated and claimed commercial viability and environmental performance of the proposed commercial version of the clean coal technology.

Appendix L provides energy projection data which must be used when proposers are making projections of the economics and marketability of their technologies. However, the offeror may include additional analyses provided that documentation is given of the assumptions used, and also that the methodology used is explained.

(a) ENVIRONMENTAL, HEALTH, SAFETY, AND SOCIOECONOMIC (EHSS) ASPECTS

Based upon the information provided in the market projections of SECTION 2.1(b), "Marketability" (below), provide information on how applicable EHSS statutes and regulations (as of January 1, 1986) will be met in regions where significant market potential is projected. In this context, EHSS includes, but is not limited to, air quality and emissions, water quality and effluents, waste disposal, water resource requirements, health, safety, and, if applicable, socioeconomic aspects. A discussion must be provided stating how anticipated environmental emissions, occupational or public exposure to liquid and solid waste

streams, intermediate process streams or products, and by-products produced by the proposed technology will meet and exceed the requirements of these statutes and regulations, and whether there are any aspects that may present a problem in achieving compliance.

Discuss the range of process design variations, inherent advantages of the proposed technology, and control technology options available to improve environmental performance in a cost-effective manner.

Discuss the EHSS impacts of the technology in its commercial scale implementation. Identify types and quantities of unregulated pollutants that may be released. Discuss direct and indirect environmental impacts, long term and/or cumulative effects, and irretrievable commitments of resources.

The proposal must compare the EHSS impacts of the proposed technology with alternative technology options that are commercially available, in the same markets proposed for this technology and show the incremental improvements that can be achieved.

(b) MARKETABILITY

The technical proposal must include a discussion of the impact of the proposed clean coal technology's commercialization on continued and increased use of U.S. coals and/or decreased use of oil and/or natural gas. This discussion must include a description of the projected market and the projected impact of the proposed clean coal technology in the marketplace. The discussion must address the following points affecting marketability (including assumptions affecting the analysis) to the extent applicable:

- o Potential total market (identifying equipment types for retrofit applications) and market geographic distribution in which the proposed technology will compete including size and its characteristics;
- o Projection of penetration of the proposed technology into the market described; including a time-phased estimate of that penetration both in terms of relative (percent) penetration and absolute penetration (e.g., tons of coal per year, MWe generated, etc.);
- o Competing commercial technologies and fuels that will be displaced by the proposed technology;

- o Economic comparisons (all on the same basis) of the proposed technology vs. the competing technologies. This analysis should present and establish the rationale for the proposer's expectations that the clean coal technology will be economically competitive in the applications identified and should consider infrastructure modification costs.  
Provide the underlying assumptions and calculation methods;
- o Characterization of (i.e., specifications for) the energy or clean fuel product;
- o Oil or gas displacement and reduction in overall energy consumption;
- o Indication of willingness of the potential marketplace to accept and use the new clean coal technology;
- o Availability of raw materials required for the technology to achieve the level of projected market penetrations (coal, water, limestone, catalysts, etc.);
- o Sources and types of coal that can be commercially utilized by the proposed technology;

- o Requirements for and costs of product(s) upgrading (e.g., from low Btu-content to high), if any;
- o Amount and characteristics of products and by-products including relative values and markets;
- o Considerations pertaining to transportation, distribution, storage, and other infrastructure aspects;
- o Availability of a manufacturing infrastructure for the proposed technology;
- o Expected technology characteristics which would facilitate commercial plant construction, such as use of shop fabrication, modular construction, siting flexibility, etc.;
- o Potential role of environmental regulations, both existing and potential, more stringent, future regulations, in affecting the commercial market potential for the clean coal technology. Identify the specific situations in which environmental factors and regulations will be critical to the marketability of the technology;
- o Non-environmental regulatory aspects affecting marketability (e.g., economic regulations);

- o Capital requirements and financing alternatives for a typical installation as well as for the total projected market penetration;
- o Other pertinent factors affecting marketability.

(c) COMMERCIALIZATION PLAN

The proposal must provide a discussion of how the clean coal technology will be commercialized in the 1990's. The discussion should define the proposer's role and the role of other parties in the commercialization process. Also, the discussion should be in sufficient detail to show how the proposed demonstration fits into the commercialization plan.

The plan must address such factors as financing, licensing, engineering, manufacturing, and marketing required to achieve commercialization. It should describe how any needed changes in infrastructure (including distribution, equipment servicing, etc.) that are necessary to achieve the commercialization will be accomplished. Include a timetable for commercial development. The commercialization plan must be consistent with the rate of market penetration described in the "Marketability" section.



## 2.2 Discussion of Demonstration Project Factors:

The purpose of this discussion is to document the technical readiness, the adequacy and appropriateness of the demonstration, the environmental implications, and the probability of successful demonstration of the proposed technology. The technical proposal (Volume II) must contain a narrative discussion of the demonstration project factors described below:

### (a) TECHNICAL READINESS

The proposal must discuss and provide evidence of the readiness of the technology for scale-up to demonstration size. The proposer must document work to date on the technology, including a discussion of the data collected at the prior steps in its process development. The size of process work to date, including throughput, conditions of operation, and duration of testing, must be provided including, for example, the identification of key process transitions from bench to pilot scale and from batch to continuous operation. The key data and results obtained must be provided to demonstrate that the

basis exists for scale-up. A further discussion must be provided to indicate the degree of scale-up required to go from the current state of knowledge about the technology to the demonstration scale proposed. The rationale for choosing the scale of the demonstration must be provided. In this element, it is essential that the proposer identify all significant items of equipment and processes that have not operated at the proposed scale and conditions of operation to be encountered in the demonstration project. The technical risks inherent in the demonstration project that could affect its success must be identified, and the discussion must address the proposed mitigating measures and likelihood of overcoming the risks. The offeror should also provide any other discussion or information that shows that the adequacy, availability, suitability, and quality of the data and analysis support the decision to advance the technology to demonstration scale.

(b) ADEQUACY AND APPROPRIATENESS OF DEMONSTRATION

The demonstration project need not be a complete, full-scale commercial plant (first-of-a-kind), but may, for example, represent a single train in a multi-train plant, or may be of less than commercial scale. It need not include all the unit operations that would be required in a commercial plant if

evidence is submitted showing that these components or sub-systems have already been successfully demonstrated or are widely used commercially. To support these decisions and other decisions regarding the offeror's choice of project, show specifically how the proposed project is adequate and appropriate for contributing to the enhancement of technologies, techniques, or processes, or to provide new information to enable the private sector to make rational commercialization decisions.

As part of this discussion, the proposer must indicate how this project relates to other similar work with specific identification of other demonstrations or commercial technologies that are similar. It must be made clear that this demonstration is not duplicative of currently available technologies, or of previously conducted or ongoing demonstrations. The proposal must address the anticipated benefits of the proposed project and show how it expands or enhances information and experience obtained in the above commercial or demonstration activities.

A discussion must be provided to indicate the degree of scale-up anticipated to be required to move from the demonstration scale to a commercial offering. The proposer must identify the technical, economic, and environmental data needed from the demonstration project which will be required to move to

commercialization. The discussion must include a description of how the project will provide the technical, environmental, and economic data and operating experience necessary to demonstrate the proposed process and define the commercial configuration. The diagnostic instrumentation and data collection techniques must be discussed sufficiently to assure DOE that the proper data will be taken during the course of the project. Also discuss the methods for disseminating the appropriate environmental, health, and safety data to regulatory agencies and to the general public, and how proprietary information could become available for commercialization including third-party licensing.

Proposals that include unnecessary or redundant demonstration of systems, processes, components, or operations that have already been successfully demonstrated or are commercially available will be considered to be less than fully appropriate. Choice of a project size larger than necessary to provide the key information for commercialization will also be considered less than fully appropriate. Likewise, scheduling of unnecessary tasks or tests and collection of unnecessary or of marginally important data will be considered less than fully appropriate. These factors will be downgraded accordingly.

(c) EHSS AND OTHER SITE-RELATED ASPECTS

Proposers must discuss the ability to comply with the environmental, health, safety, and socioeconomic (EHSS) statutes and regulations for all phases of the project, EHSS risks and impacts of the proposed clean coal demonstration project, and suitability, quality and adequacy of the site and/or facility.

EHSS benefits and impacts associated exclusively with later commercialization of the clean coal technology should be described in SECTION IV.2.1(a) rather than in the present Section.

Probability of EHSS Compliance

Specific topics to be addressed include, but are not limited to, the following:

- o EHSS requirements as of January 1, 1986, applicable to the demonstration, and evidence of the ability to comply with these requirements. Provide data and analyses to support the conclusions regarding predicted compliance with EHSS regulations and standards, including relevant preproposal test data, process stream information, analyses of control technology and process performance, and information about how the proposed control technology has been used in applications similar to the project.

- o The proposed schedule for obtaining needed permits. Summarize the status of permits already obtained or applied for. Describe any permit modifications required for existing facilities. Discuss anticipated impediments to the permitting process.
- o Estimates of environmental discharges (air emissions, water effluents, liquid and solid wastes, etc.). Describe discharge reductions to be achieved by the project or facility, with special emphasis on "before and after" comparisons if a retrofit proposal.
- o Discussion of options available for controlling discharges (e.g., process design variations and alternative control methods) if problems should arise for compliance, such as performance shortfalls or more stringent EHSS requirements than those assumed in the proposed approach.
- o Safeguards and environmental controls that will be used to ensure construction, operation and dismantlement/disposition, if applicable, in a manner that protects project workers, local residents, and users of the products, from health and safety risks. Describe EHSS monitoring plans and their relationship to federal, state, and local requirements.

## EHSS Risks and Impacts

Provide the following information and discussion including, but not limited to:

- o Identification of EHSS risks and impacts of the proposed project. For example, identify potential impacts on historical sites, parks, wilderness areas, and sensitive resources within the range of influence of the project.
- o In the case of a technology proposed for retrofit, replacement, or addition to an existing facility, directly compare the EHSS attributes (in addition to discharges discussed above) of the project to those of the existing facility, including the effects of modifications in equipment and operating procedures for the facility, and for supporting facilities and activities.

## Site Suitability

Information provided about the site and proposed alternatives, if any, must include the following to the extent applicable:

- o The site location and salient characteristics.

- o The types and amounts of the raw materials and utilities needed, and the plan to acquire these materials and utilities, including sources, methods of extraction, beneficiation and transportation.
- o The requirements and availability of labor and other infrastructure needed for construction, operation, and, if appropriate, dismantling and disposal.
- o Water resource requirements and potential constraints on availability.
- o Provisions for by-product and waste stream handling, including characterization, storage, sale or disposal, and transportation plans.
- o For retrofit projects, a description of the "receiving" installation, distinguishing between the new technology and its components and the existing conventional infrastructure that is not specific to the proposed clean coal technology.
- o Advantages and disadvantages of the proposed site and active alternatives, including future use of the site. Discuss consideration given to discarded alternative sites, and reasons why the proposed active site(s) was/were chosen.



(d) TECHNICAL APPROACH AND STATEMENT OF WORK

The proposal must contain a description of the demonstration project in sufficient detail to judge the reasonableness and adequacy of the technical approach. This description must include detailed information about the process selected for demonstration, including where available:

- o Process flow diagrams
- o Energy and mass balances
- o Major equipment requirements
- o Equipment layout sketches
- o Plot plan(s) and off-site requirements
- o General design specifications
- o Unique design specifications (e.g., specialized construction materials required)
- o Raw materials and utility requirements (water, power, coal, etc.)

The offeror must define and provide the logic for the tasks required to complete the project in sufficient detail to clearly show how the project will proceed. The description must include but not be limited to:

- o how pre-demonstration background data will be used to confidently design the demonstration
- o how operation will be conducted to maximize advancement of the technology
- o how economic assessments will be performed and used
- o how project technical and environmental data will be collected, analyzed, and reported
- o how project will be scheduled (major milestones, decision points, etc.)
- o a facility disposition plan. This plan should show the extent to which permanent (non-severable) improvements and other alterations to real property will be made and the proposed approach to, and plan for disposition of, the facility and all property included as part of the project. If operation beyond the life of the project or abandonment

in place is proposed, this plan should contain the details of the transition, including necessary coordination with DOE.

In addition to the discussion above, the offeror must provide a proposed Statement of Work (SOW) which, as revised and accepted by DOE, will become part of the Cooperative Agreement if the proposal is selected. The SOW must outline the project tasks according to a work breakdown structure listing the logical sequence of activities to successfully complete the project.

The proposed SOW must clearly define and be structured on the basis of the following phases:

Phase 1: Design and Permitting

Phase 2: Construction and Startup ("Shakedown")

Phase 3: Operation, Data Collection, Reporting, and Disposition

Subdivision of phases is permissible. It is recognized that some proposed projects may have already completed one or more of the above phases.

The SOW must include a definitive list of the deliverables to be furnished to the Government during each phase. If any

technical data are to be withheld, they must be identified in accordance with SECTION III.38, "Rights in Technical Data." The Government requires as deliverables plans, schedules, and management reports to be used by the participant to plan, control, manage, and execute the project. The Government also requires the reporting of technical, economic, and environmental data that will result from the project. The list of minimum required reporting is contained in Attachment C to the Model Cooperative Agreement which is provided as Appendix B to the PON.

These reports include:

- o An Environmental Monitoring Outline, Plan, Quarterly and Annual Environmental Monitoring Reports. As a guideline, the format developed by the Synthetic Fuels Corporation is provided within Attachment C to Appendix B.
- o An Environmental Report containing site-specific information required for DOE to satisfy the NEPA requirements. (See SECTION III.27, "NEPA Strategy," and Appendix J, "Information Requirements for NEPA.") This report must be provided, and the NEPA process completed, before detailed design or construction can begin.

- o Project Evaluation Plan(s) and subsequent Project Evaluation Report(s) for each project phase which will provide the basis for the decision to proceed to the next phase (see Appendix B, Model Cooperative Agreement, Article II(c)(2) and Article III).

Other minimum requirements are further described in Appendix B.

The SOW must include scheduled times for formal project reviews. The number and timing of such reviews are to be proposed. The Government requires at least the following reviews:

- (1) Phase I - Two (2) reviews to be held at about the 40% and 90% design points. If design is partially or fully completed at the time of award, the project reviews will be adjusted accordingly.
- (2) Phase II - Two (2) reviews, to be held at about the 20% and 100% completion points.
- (3) Phase III - One (1) review.

The Model Cooperative Agreement provides for decision points at the conclusion of project phases. The proposed SOW must allow for these decision points. The Government recognizes

that time and cost can be reduced if phases overlap (e.g., the purchase of long lead-time items may be initiated before design is completed) and is willing to accommodate the initiation of specific tasks of a later phase before the earlier phase is completed, if deemed necessary.

### 2.3 Summary of Exceptions, Deviations and Assumptions:

The proposer shall identify and explain any exceptions, deviations, or conditional assumptions taken with respect to the requirements of this Technical Proposal. Any exceptions, etc., taken must contain sufficient explanation and justification to permit evaluation. All benefits to the Government shall be explained for each exception taken. Such exceptions will not, of themselves, automatically cause a proposal to be termed unacceptable, however, a large number of exceptions, or one or more significant exceptions not providing benefit to the Government may result in rejection of the proposal as unacceptable.

## 3. PREPARATION OF VOLUME III: BUSINESS AND MANAGEMENT

### 3.1 General Instructions:

The Business and Management Proposal consists of the offeror's presentation of his capability to successfully manage and conduct

the proposed activities. At a minimum, the Business and Management Proposal must contain the following information in the following order:

- A. Table of Contents
- B. Federal Assistance Application Form
- C. Assurance of Compliance - Nondiscrimination in Federally Assisted Programs
- D. Public Abstract
- E. Project Summary Sheet
- F. Summary Environmental Data for the Commercialized Technology
- G. Specific Business and Management Discussion
- H. Exceptions and Deviations

Further instructions are provided below.

### 3.2 Application Form and Assurance of Compliance:

The Federal Assistance Application Form and the Assurance of Compliance - Nondiscrimination in Federally Assisted Programs Form are provided as Appendices E and F of this PON. Both items must be completed and signed.

### 3.3 Public Abstract:

A public abstract of not more than 500 words describing the proposed project, the specific clean coal technology proposed, the objective, methodology, sponsoring organization(s), and timeframe is to be provided. Not more than two 8 1/2" x 11" diagrams may be submitted by the offeror. The abstract must provide an overview of the proposed project. This abstract may be released to the public by DOE in whole or in part at any time. It is therefore required that it shall not contain proprietary data or confidential business information.

### 3.4 Project Summary Sheet:

The proposer shall complete and submit the Project Summary Sheet shown in Appendix C in accordance with the following instructions. Information considered to be proprietary or business confidential shall be appropriately marked with asterisks.

1. Project title (if any): For example, "The XYZ Corp. Clean Coal Project."
2. Proposer Name(s): List name of sponsoring organization(s). If teaming is involved, list prime sponsoring organization first.



3. Proposer Address: List complete address of prime sponsoring organization.
4. County: List county in which the above organization is located.
5. Responsible Official: List name of responsible official to whom questions and discussion should be directed. List address if different than in Item 3.
6. Telephone Number: Give telephone number of individual designated in Item 5.
7. Alternate Contact: Give similar information for an alternative point of contact in the event that the Responsible Official cannot be reached.
8. Telephone Number: Give telephone number of individual designated in Item 7.
9. Technology: Give a brief technology description (e.g., gasification combined cycle power generation, production of superclean coal-water slurry, etc.).

10. Application(s): Describe the primary application (e.g., utility; small-scale coal combustion for commercial-residential; etc.).
11. Project Location: Give the primary project location where the work will be performed.
12. County: List the county for Item 11.
13. Types of Coal to be Used: List the types of coal to be tested or used (e.g., North Dakota lignite, Pennsylvania anthracite, etc.).
14. Project Size: Give a measure of project size by tons/day (TPD) and/or megawatts (equivalent) of electricity produced (MWe) where integrated testing is involved. If such measures are not applicable, provide an alternate or briefly explain.
15. Proposed Starting Date: Self-explanatory.
16. Proposed Project Duration (months): Self-explanatory.
17. Total Estimated Project Cost (participant plus government): Self-explanatory.

18. Participant's Cost Share (% total): Give the participant's percentage share of the total project cost. (Note - must be 50% or greater.)
19. Cost by Phase: Give the cost breakdown by project phase. (Note - participant's share must be 50% or larger for each phase.)

3.5 Summary Environmental Data for the Commercialized Technology:

As part of the strategy to comply with the requirements of the National Environmental Policy Act (NEPA), the Government will do a programmatic environmental impact analysis. (See SECTION III.27, "NEPA Strategy.")

Offerors shall complete and submit, as part of volume III, Business and Management Proposal, the forms provided in Appendix K, "Summary Environmental Data for the Commercialized Technology," using that information deemed to best characterize the commercial version of the clean coal technology being proposed.

3.6 Specific Business and Management Discussion:

3.6.1 COMMITMENT TO PROJECT

As evidence of the commitment of top management to the proposed project:

- (a) State the proposer's percentage share of total project cost shown in Exhibit F of Appendix G (show only percentage, not total cost or total cost-share). The Government encourages maximum percentage cost-sharing by the participant.
  
- (b) Describe and explain the priority placed by Senior Management (President, Chairman of the Board, CEO, etc.) of the proposer on the work being proposed, other than as evidenced by the percentage of cost-sharing, including:
  - o how the proposed project fits into the proposer's overall business, marketing, or energy utilization strategy, and
  
  - o the corporate investment in the technology to date.

### 3.6.2 MANAGEMENT PLAN

The proposer must provide a detailed assessment of the management requirements associated with the proposed project and a management plan for accomplishing the project. Management philosophy and proposed implementation techniques must be discussed. The proposer must identify the management aspects of the project considered most critical to achievement of the objectives and must discuss the recommended approaches/solutions to minimize project risk. Methods

to be utilized to ensure adequate discernment of risks must be delineated. Detailed information must be presented on how the overall program control will be exercised to ensure a smooth transition from one phase to the next. Management information and direction channels must be identified, along with charts and organizational responsibilities and authorities. The discussion must include, at a minimum:

- (a) How the proposer's Project Manager will direct and coordinate the effort, particularly if a team effort.
- (b) If a teaming arrangement is proposed, include the following (In addition to a letter of intent or executed teaming agreement from all parties sufficiently binding to ensure the formation of the proposed legal entity that is to be submitted under Section IV.1(f)):
  - i. An explanation of the precise nature and form of the teaming relationship, including a discussion of the responsibilities of each party.
  - ii. Identification of the specific organization and individual that will be directly responsible for the success of the proposed project.
  - iii. Information, with supporting documentation, to verify and demonstrate the team's capability of providing

the financial and other resources necessary to support the project over its entire proposed period of performance.

- (c) Estimates of the numbers and types of personnel required to perform each task.
- (d) How planned construction and subcontract management, if any, will be achieved.
- (e) How project contingencies will be managed.
- (f) How the proposer's Project Manager will relate to the Government Project Manager.
- (g) How lines of authority will be established.
- (h) How progress will be monitored and reviewed.
- (i) How changes in project implementation will be coordinated and controlled.

### 3.6.3 SUPPORT AVAILABILITY

Support available to this project must be discussed. This must include both administrative and technical support activities, laboratories, special equipment, computer facilities, accounting, engineering, etc. In particular, justify the level of support deemed to be necessary for this project. Discuss the location, availability or degree of dedication of the support functions, and describe the means for coordination. Discuss how small businesses, including socially and economically disadvantaged small business concerns, will be utilized.

### 3.6.4 FINANCING PLAN

The proposer shall provide the following information:

- o A financing plan that specifies the source of all funds needed for the proposer's cost-share for the project as proposed for the cooperative agreement, including the status of all existing or proposed financing agreements affecting the project. Discuss the degree of certainty that the funds needed will be available when required; include a full description of any liabilities, limitations, conditions, and other factors affecting the availability of the proposer's funds for the project.

administered the contract, a description of the product or service, the contract type, the period of performance, the basis of the competition (price, delivery or technical merit), and the original contract price and final contract price with reason for cost variation and schedule slippage, if any.

#### 3.6.7 KEY PERSONNEL

The project team for this program shall be described, showing the organizational and functional relationships of key personnel within the corporate and/or team structure. An organizational chart showing key personnel with man-hours and percentage of key-personnel time shall be included. A statement of availability of all key personnel shall also be included.

Resumes of key personnel, covering education, technical/management experience, and professional development shall be provided. Resumes of personnel identified for specific positions shall indicate relevant qualifications.

#### 3.7 Exceptions and Deviations:

The offeror shall identify and explain any exceptions or deviations taken or conditional assumptions made with respect to the Model



Cooperative Agreement (Appendix B) or attachments thereto, the requirements of this Business and Management section, or any other section of this PON not addressed in the Technical or Cost volumes. Any exceptions, deviations, or conditional assumptions taken must contain sufficient explanation and justification to permit evaluation. The benefit to the Government shall be explained for each exception taken. Such exceptions will not, of themselves, automatically cause a proposal to be termed unacceptable. A large number of exceptions, or one or more significant exceptions not providing benefit to the Government, however, may result in rejection of your proposal as unacceptable.

4. PREPARATION OF VOLUME IV: COST

4.1 General Instructions:

(a) INTRODUCTION

This is a "Cost-Sharing" cooperative agreement and the following should be considered when developing the proposed costs for the project. (Participant cost-sharing is the portion of the project cost not borne by the Federal Government.)

The proposer is expected to identify all costs associated with the project from award to the end of the project. The proposer shall develop and must propose the costs in phases, by proposer's fiscal year (FY). The phases, as identified elsewhere in the PON, are Design and Permitting, Construction and Startup ("Shakedown"), and Operation, Data Collection, Reporting and Disposition. Phases or sub-phases already completed should not be included as a part of the cost proposal. Additional guidance is provided in SECTION 4.2, "Format and Content," below.

Project costs consist of all allowable costs (as set forth in the Applicable Federal Cost Principles) incurred by the recipient and the value of in-kind contributions made by the proposer or third parties in accomplishing the objectives of the project.

Once the total estimated costs for the project have been developed, the proposer is expected to develop a cost-sharing plan which identifies the proposed sharing ratio of the total proposed costs for the Government and for the proposer. The proposer is reminded that the Government's total share of the project costs is not to exceed 50 percent in each of the three phases.

- o A description of any existing federal, state, and local tax, regulatory or other incentive(s) included in the financing plan, and an explanation of their overall impact on the successful completion of the project.

#### 3.6.5 FINANCIAL CONDITION AND CAPABILITY

The proposer must provide current financial statements for all quarters reported on in the current fiscal year, and an audited financial statement for the prior three fiscal years. If the proposing entity came into existence, was incorporated, or otherwise formed since October 1, 1984, audited financial statements of the same type for the same periods of time shall be provided for each and every one of the parent and predecessor organizations, in addition to providing any available financial statements for the new entity.

#### 3.6.6 PROPOSING ENTITY PAST PERFORMANCE

Describe your experience and success with projects involving similar or related technologies, and projects of similar scope or complexity, including those both government-supported and privately-financed. Where this experience was acquired under contract, include the contract number, the name, address, and telephone number of the sponsor's contracting official who

The following definitions shall be considered when developing the Cost-Sharing Plan.

PARTICIPANT COST-SHARING	Refers to the share of the project cost contributed by the recipient or third parties.
CASH CONTRIBUTION	Refers to cash outlays by recipient or third parties.
IN-KIND-CONTRIBUTION	Represents the value of non-cash contribution provided by the recipient or third parties. Examples would be the value of property, facilities, equipment, or service.

The cost proposal will be evaluated to determine the appropriateness and reasonableness of the proposed cost and the evaluated probable cost to the Government. The proposal will also be used as the basis for any and all negotiations with the Government if the project is selected for award. The proposals, therefore, should contain adequate, accurate, and well documented information so the Government can understand how your proposed costs were developed.

(b) IDENTIFICATION

All forms, tables, and exhibits submitted must be identified and listed in the table of contents or index. All pages, including forms, must be numbered.

(c) JOINT VENTURE/TEAM AGREEMENTS

If a joint venture or teaming arrangement is proposed, a complete set of Standard Form (SF) 1411 forms will be required for each team member, along with the supporting exhibits and documentation.

(d) ROUNDING

Final monetary extensions should be expressed in whole dollars.

(e) DEFINITIONS

Federal Acquisition Regulations (FAR) Part 31, Contract Cost Principles and Procedures, shall be the guide for definition of the cost elements.

(f) SUBCONTRACTS

For all subcontracts expected to exceed \$500,000 the offeror shall obtain and submit a complete set of SF 1411 forms, along with the supporting exhibits and documentation, from each subcontractor in this category. For subcontracts under \$500,000, sufficient information must be submitted to enable DOE to determine the accuracy of the proposed cost to the Government.

(g) CERTIFIED COST OR PRICING DATA

Proposers may be required to certify, in accordance with Pub. L. No. 87-653, that the cost or pricing data submitted are accurate, complete and current. Any offeror required to submit this certification shall be required, in accordance with FAR 15.804-2, to submit, or arrange for the submission of, accurate, complete, and current cost or pricing data from its prospective subcontractors.

4.2 Format and Content:

(a) SECTION ONE: COST EXHIBITS

Proposers, subcontractors (over \$500,000), and each team member, if a teaming arrangement is proposed, must submit separate Exhibits A through F as described below for their proposed tasks.

Format examples are provided in Appendix G. Additionally, the prime proposer or lead team member must submit summary-level Exhibits A through F, incorporating their own, each team member's, and subcontractor's Exhibits A through F data.

1. Exhibit A: Standard Form 1411:

Submit a complete set of fully executed SF 1411's. The SF 1411 and the Pricing Proposal Summary Addendum must be completed in accordance with the instructions and format attached to the SF 1411.

Cost data must be fully supported, documented and traceable. Proposers must reference, when applicable, page numbers, paragraphs, charts, and exhibits. Proposers must also state which elements of their cost proposal are based on actual verifiable data and which elements are based on projections or estimates. For projected cost elements, provide the judgmental factors applied in projecting from actual and verifiable data to the estimate. Also, discuss the basis of the cost estimate for each element of cost, i.e., how the labor rates were developed, the indirect rates calculated, consultant rates, material prices, escalation rates, etc.

ii. Exhibit B: Summary of Escalation Factors

This exhibit shall contain, by individual or major element as appropriate, the effective annual escalation rate each proposer expects to experience during the performance of this cooperative agreement. The escalation will be by proposer's fiscal year and will be supported with detailed justification.

iii. Exhibit C: Summary of Indirect Expense Pools and Bases

This exhibit will contain the major base and pool expense groupings by line item and dollar amount. The exhibit shall be prepared covering the proposer's last two FY's, the current fiscal year, and the estimate for the rest of the project's FY's. The proposer must state at the bottom of the exhibit the inclusive dates of their fiscal year. The proposer must provide detailed explanations for all variances between the items from FY to FY. A Sample Format for the Indirect Cost Data is included as Exhibit C of Appendix G.



iv. Exhibit D: Government Property

If the offeror's proposal is based on the use of Government-furnished property, provide a list of those items on this exhibit. State how the property will be used during this project. Show evidence that this property is available for the proposed project. Also specify (1) the expected amount of utilization (in hours per week); (2) the expected percentage of capacity utilized; and (3) how much of this utilization is attributable to this cooperative agreement.

For each item of Government-furnished property proposed, an analysis must be attached describing the additional costs which would be incurred should the Government decide not to furnish the proposed property (this includes Government property currently in the proposer's possession).

v. Exhibit E: Work Breakdown Structure

The "Statement of Work" (SOW) as developed by the proposer is intended to define the scope of work for

the cost-sharing portion of the project for each phase. The offeror is reminded that the proposed cost-sharing must be at least 50 percent by the offeror for the total project and for each of the project phases as defined in SECTION IV.2.2(d). In determining the allowable project costs and the Government's share of these costs, the cost-sharing policies and guidelines discussed in SECTION VI of this PON must be adhered to. The cost-share amounts for the exhibits should be expressed in whole dollars. As a minimum provide the information required in Exhibit F of Appendix G.

(b) SECTION TWO: ADDITIONAL INFORMATION

The offeror shall furnish all information requested below, if applicable. The offeror shall be responsible for subcontractor and consultant submissions.

1. Subcontracts: In addition to a subcontract list required by the Material Section in support of the SF 1411, the following information is required for planned subcontracts of \$500,000 or more:

- (1) The number of quotations solicited and received.

the project. The WBS as proposed by the offeror converts the proposed SOW into identifiable tasks which can be scheduled and priced for the proposal and can later be used for tracking performance. The WBS developed for the technical proposal provides the basis for the cost estimate and is to be used to estimate the cost in Exhibit E to task level three (see description in Appendix H of this PON) by cost element detail (labor, material, overheads, other direct cost, etc.). At this time cost information below level three is not desired; however, the cost details to the lowest level of the WBS may be required later and should be ready for submission when requested. The proposed costs in Exhibit E should be expressed in whole dollars and be summarized into estimated costs for the total project, and individual phase, and task.

vi. Exhibit F: Cost-Sharing Arrangement

The purposes for this exhibit are two-fold. First is to provide a summary of the proposed cost-share for the project, showing the anticipated percentages and amounts for the participants and the totals for each phase. The second is to identify and provide information for

- (2) The cost or price analysis accomplished, including a cost element analysis by the offeror as to the allocability, allowability, and reasonableness of the costs proposed.
- (3) Names and addresses of the subcontractors tentatively selected and basis of selection, i.e., low bidder, delivery schedule, technical competence, etc.
- (4) Type of contract contemplated.
- (5) Affiliations with the proposer (prime contractor), if any.

ii. Consultants: For each consultant proposed, the following information should be supplied with the proposer's Cost Proposal:

- (1) Resume.
- (2) Details of what cost elements are included in the rate, and what costs will be charged in addition to the rate.

- (3) Five (5) invoices submitted to private industry that support the proposed rate, and confirmation of payment;  
or

Employment history for the previous three (3) years, including salary and rate history, covering only those times when the consultant worked 20 days or more.

- (4) A proposed consulting agreement between the offeror and the consultant.
- (5) A signed statement from the consultant that the proposed rate is a "Most Favored Customer Rate," or the reason it was not offered.
- (6) A rate comparison from the offeror which indicates that the rate proposed is comparable to the rates of other consultants doing similar types of work. The offeror may be asked to provide the names of the other consultants used in the comparison.

(c) SECTION 3: SUMMARY OF EXCEPTIONS, DEVIATIONS AND ASSUMPTIONS

The proposer shall identify and explain any exceptions, deviations, or conditional assumptions taken with respect

to the requirements of this Cost Proposal. Any exceptions, etc., taken must contain sufficient explanation and justification to permit evaluation. All benefits to the Government shall be explained for each exception taken. Such exceptions will not, of themselves, automatically cause a proposal to be termed unacceptable, however, a large number of exceptions, or one or more significant exceptions not providing benefit to the Government may result in rejection of the proposal as unacceptable.

## SECTION V - QUALIFICATION AND EVALUATION CRITERIA, AND PROGRAM POLICY FACTORS

### 1. INTRODUCTION

The prime consideration in the evaluation of proposals for financial assistance is to assess their merit in order to determine those proposals that offer the greatest likelihood of successfully demonstrating and subsequently commercializing emerging clean coal technologies.

The process of evaluation will consist of:

- (a) Preliminary Evaluation.
- (b) Comprehensive Evaluation.
- (c) Consideration of Program Policy Factors.

The source selection official will select proposal(s) for award taking into account the evaluation criteria and relevant program policy factors in order to determine the mix of projects which will best further the objectives and goals of this PON.

### 2. PRELIMINARY EVALUATION

In order to be considered in the Comprehensive Evaluation phase, a proposal must successfully pass Preliminary Evaluation. Failure to meet one or more of the Preliminary Evaluation requirements will

result in rejection of the proposal and, therefore, will preclude proceeding to Comprehensive Evaluation. In the event that a proposal is rejected, a notice will be sent to the proposer stating the reason(s) that the proposal will not be considered for financial assistance under this solicitation. The requirements to pass preliminary evaluation are as follows:

- (a) The proposal must meet the following Qualification Criteria:
  - i. The offeror must show that the proposed project or facility will be located in the United States of America.
  - ii. The offeror must show that the proposed project or facility will be designed for and operated with coal(s) from United States mines.
  - iii. The proposer must certify that the request for Government cost-sharing does not exceed 50 percent of the total estimated cost, and that the proposer will cost-share to the extent of at least 50 percent in each of the three phases, Design and Permitting, Construction and Startup ("Shakedown"), and Operation, Data Collection, Reporting, and Disposition, proposed by the offeror.



- iv. The proposer either must own and make available the demonstration site or must provide firm evidence of his right to use the site for the duration of the proposed project.
  - v. The proposer must certify that, as a minimum, the proposed technology, alone or in conjunction with other technologies, is capable of complying with the requirements of the Clean Air Act, as amended, and with the relevant federal and state regulations promulgated pursuant thereto as of January 1, 1986, for the market applications proposed.
  - vi. If a teaming arrangement is proposed, the offeror must provide a letter of intent or executed teaming agreement from all parties sufficiently binding to ensure the formation of the proposed legal entity.
- (b) The proposal must contain sufficient technical, cost, and other information, as described in this solicitation, to enable Comprehensive Evaluation.
- (c) The proposal must be signed by a responsible official of the proposing organization authorized to contractually bind the organization to the performance of the cooperative agreement in its entirety.

### 3. COMPREHENSIVE EVALUATION

Proposals passing Preliminary Evaluation will have their Technical Proposals (Volume II), Business and Management Proposals (Volume III), and Cost Proposals (Volume IV) evaluated. The Technical Proposal evaluation is conducted to determine the relative merits of the offeror's proposal in accordance with weighted evaluation criteria. The Technical Proposal evaluation results in a numerical score for each of the evaluation criteria.

The Business and Management Proposal will be evaluated to determine the business and management performance potential of the offeror, and will be used as an aid to determine the offeror's understanding of the technical requirements of this PON. The Business and Management Proposal will be adjectively rated but not point-scored.

The Cost Proposal will be evaluated to assess whether the proposed cost is appropriate and reasonable, and to determine the probable cost of the proposed project to the Government. The Cost Proposal will also be used to assess the validity of the proposer's approach to completing the project in accordance with the proposed Statement of Work and the requirements of this PON. No point score will be applied.

### 3.1 Technical Evaluation Criteria:

The Technical Evaluation Criteria are divided into two major categories. The first, "Commercialization Factors," addresses the projected commercialization of the proposed technology. This is different from the proposed demonstration project itself. It deals with all of the other steps and factors involved in the commercialization process. The subcriteria in this section will allow consideration of the projected environmental, health, safety, and socioeconomic impacts; the potential marketability and economics of the technology; and the plan to commercialize the proposed technology subsequent to the demonstration project.

The second major category, "Demonstration Project Factors," recognizes the fact that the proposed demonstration project represents the critical step between "pre-demonstration" scale of operation and commercial readiness, and deals with the proposed project itself. Subcriteria in "Demonstration Project Factors" will allow consideration of technical readiness for scale-up; adequacy and appropriateness of the demonstration project; the environmental, health, safety, and socioeconomic and other site-related aspects; and the reasonableness and adequacy of the technical approach and quality and completeness of the Statement of Work.

### 3.1.1 Commercialization Factors

#### (a) ENVIRONMENTAL, HEALTH, SAFETY, AND SOCIOECONOMIC (EHSS) ASPECTS

Degree to which the technology, used in integrated commercial applications as projected by the offeror, is likely to meet and exceed environmental, health, safety, and socioeconomic (EHSS) statutes and regulations and to reduce or mitigate adverse EHSS and resource impacts. This includes, but is not limited to, discharges of wastes and pollutants to the environment, worker and community health and safety risks, socioeconomic impacts, and consumption of scarce resources such as fresh water, minerals, and land. Included therein is the ability to exceed environmental requirements in proposed applications that require better than minimum performance, such as locally stringent emission limitations or requirements for reducing emissions from existing facilities.

#### (b) MARKETABILITY

Degree to which the technology helps to ensure that existing markets for U.S. coal can be maintained and/or results

in increased use of U.S. coals and/or decreased consumption of petroleum and/or natural gas. Included therein are economic competitiveness and the impact of regulations on marketability.

(c) COMMERCIALIZATION PLAN

Viability of the commercialization plan to carry the technology from demonstration to commercial use in the 1990's.

*INTENT?*

3.1.2 Demonstration Project Factors

(a) TECHNICAL READINESS

Technical readiness for scale-up to a demonstration project, as evidenced by the adequacy, availability, suitability, and quality of the data and analyses supporting a decision to advance the technology to demonstration scale.

(b) ADEQUACY AND APPROPRIATENESS OF DEMONSTRATION

Adequacy and appropriateness of the proposed project to contribute to the enhancement of technologies, techniques, or processes, and provide new information to enable the private sector to make rational decisions with regard to whether to commercialize.

(c) ENVIRONMENTAL, HEALTH, SAFETY, SOCIOECONOMIC (EHSS)  
AND OTHER SITE-RELATED ASPECTS

Adequacy and appropriateness of proposed approaches to comply with all EHSS requirements during all phases of the proposed project and to mitigate the risks and impacts of the EHSS aspects of the proposed demonstration project, and the suitability, quality, and adequacy of the site(s) and/or facility(s) for the proposed demonstration project.

(d) TECHNICAL APPROACH AND COMPLETENESS OF STATEMENT OF WORK

Reasonableness and adequacy of the technical approach of the proposer to design, construct, operate, and, if applicable, dismantle the proposed demonstration facility and quality and completeness of the proposer's Statement of Work (SOW) for the demonstration project.

3.1.3 Relative Importance of Technical Evaluation Criteria

Section 3.1.2, "Demonstration Project Factors," is worth slightly more than half the total point score for the technical evaluation

criteria, while Section 3.1.1, "Commercialization Factors," is worth slightly less than half of the total point score.

Within Section 3.1.1, "Commercialization Factors," factor (b) is worth slightly more than half of the points. Factors (a) and (c) are weighted equally and together are worth slightly less than half of the points.

Within Section 3.1.2, "Demonstration Project Factors," factor (b) is most important, accounting for slightly less than half of the points. Next most important is factor (d), which is worth slightly more than half of the value of factor (b). Factor (a) is worth two-thirds as much as factor (d). Factor (c) is least important, with a score value half that of factor (a).

### 3.2 Business and Management Evaluation Criteria:

The following business and management evaluation criteria will be applied to evaluate the business and management proposal (Volume III) submitted in response to this PON:

- (a) Degree of priority placed by top management on the project, including the extent of cost-sharing above fifty percent,

For Tech

- (b) Adequacy, completeness, and reasonableness of proposed management plan to ensure that the proposed project will be completed in accordance with the timeframes and technical and cost elements specified in the proposal,
- (c) Adequacy, completeness, and reasonableness of administrative and technical support proposed for the project, including provision of adequate opportunities for small businesses, including socially and economically disadvantaged small business concerns,
- (d) Adequacy and completeness of the participant's financing plan,
- (e) Financial condition and capability of proposer to fund proposed share of cooperative agreement,
- (f) Proposer's experience and success in executing projects of similar or related technology, scope and complexity, and
- (g) Qualifications, experience, and availability of proposed project key personnel.

### 3.2.1 Relative Importance of Business and Management Criteria

Criteria (a) and (b) are approximately of equal importance and are each approximately twice as important as each of the remaining criteria (c) through (g). Criteria (c) through (g) are approximately of equal importance to each other.



### 3.3 Cost Evaluation Criteria:

The cost proposal (Volume IV) will be evaluated in accordance with the following criteria:

- (a) The appropriateness and reasonableness of the proposed cost, and
- (b) The evaluated probable cost to the Government, as determined by DOE.

### 3.4 Relative Importance of Proposal Volumes:

The Technical Proposal (Volume II) is of significantly greater importance than the Business and Management (Volume III) Proposal.

The Cost Proposal (Volume IV) is minimal; however, everything else being equal, the Cost Proposal is very important.

### 3.5 Program Policy Factors:

Program policy factors are those factors that, while not appropriate indicators of a proposal's individual merit (e.g., technical excellence, proposer ability, and cost), are relevant and essential to the process of choosing which of the proposal(s)

received and evaluated, taken together, will best achieve the program objectives and goals. The following program policy factors will be considered:

- (a) The desirability of selecting for support a group of projects that represent a diversity of methods, technical approaches, or applications,
- (b) The desirability of selecting for support a group of projects that would ensure that a broad cross section of the U.S. coal resource base is utilized, both now and in the future, and
- (c) The desirability of selecting for support a group of projects that represent a balance between the goals of expanding the use of coal and minimizing environmental impacts.

## SECTION VI - GOVERNMENT FINANCIAL PARTICIPATION

This section specifies the financial policies and guidelines upon which Government assistance under this Program Opportunity Notice (PON) will be determined.

### 1. AMOUNT OF COST-SHARING REQUIRED

- o DOE shall not finance more than 50 percent of the total costs of the project as estimated by DOE as of the date of award of financial assistance. In addition, cost-sharing by the offeror of at least 50 percent is required in each of the following phases: (1) Design and Permitting; (2) Construction and Startup ("Shakedown"); and (3) Operation, Data Collection, Reporting, and Disposition.
- o Costs will be shared between DOE and the participant on an "as expended," dollar-for-dollar, basis (reconciled quarterly).

### 2. PROJECT COSTS NOT ALLOWED FOR COST-SHARING PURPOSES

- o DOE shall not accept valuation for property sold, transferred, exchanged, or otherwise manipulated to acquire a new basis for depreciation purposes or to establish a rental value in circumstances which would amount to a transaction for the mere purpose of responding to this PON.

- o Revenues or royalties from operation or prospective operation of the project, including the period beyond that specified in the financial assistance agreement, or proceeds from the prospective sale of the assets of the project, or revenues or royalties from replication of the technology in future projects or plants, are not to be considered cost-sharing.
- o Property which has been fully depreciated will not receive any cost-sharing value except to the extent that it has been in continuous use by the proposer during the entire calendar year 1984. (See SECTION VI.3, below.)
- o Existing facilities, equipment, and supplies, or previously expended research or development funds are not cost-sharing for the purposes of this PON, except as amortized, depreciated, or expensed in normal business practice (see SECTION VI.3, below). Contributions in the form of foregone revenues or replacement power costs will not be considered as cost-sharing.
- o Patents, proprietary data, or prior work will not be valued in determining the proposer's cost participation in the cooperative agreement project.

- o Allowable costs which are absorbed by the proposer as its share of cost participation may not be charged directly or indirectly or may not have been charged directly or indirectly in the past to the Federal Government under other contracts, agreements, or grants. Additionally, other appropriated federal funds are not cost-sharing for the purposes of this PON.
  - o Foregone fee or profit will not be considered in establishing the degree of cost participation. Fee or profit will not be paid to the participant(s) under the cooperative agreement.
3. ALLOWABLE PROJECT COSTS FOR COST-SHARING PURPOSES
- o Cost participation by the proposer may be accomplished by a contribution of either direct or indirect costs provided such costs are otherwise allowable in accordance with the cost principles applicable to the award.
  - o For property contributed to the project and which has been fully depreciated but was in continuous use during the entire calendar year 1984, a fair use value for the life of the project will be assigned by DOE. The fair use value will be the annual average depreciation used by the proposer as permitted under statute or IRS regulations under which it was depreciated.

- o The value that will be allowed for contributions of currently depreciating property and which are of relevance to the project proposed is the depreciation schedule which has been used and is allowed under statute or IRS regulations for the property. This depreciation will be limited in its cost-share value to the depreciation claimed during the life of the demonstration project.
- o Contributed land will be valued at its fair rental value for the period of the demonstration.
- o Contributed land, equipment and facilities will be counted as cost-sharing only for the periods during which they are actually brought into use for this project. For example, that portion of a facility used for housing the design team may be credited as a cost-share during Phase I, but contributed equipment to be incorporated in the construction may be credited as a cost-share only during those portions of Phases II and III when actually utilized. Property that is owned by one of the participants and is made available to the project for the project period or any part thereof will be valued in accordance with the principles described above.
- o Value for contributed equipment and facilities will be assigned only to the extent that the facility or equipment is project-related.

- o The cost of disposal of the facility and equipment is an allowable cost under the final phase of the cooperative agreement.
- o In the event that DOE and the offeror execute a cooperative agreement for a project selected for award under this PON, DOE will recognize as an in-kind contribution the costs incurred to acquire and deliver the environmental information generated by the proposer during the time period between selection and the award of the cooperative agreement. Only the information actually delivered and accepted by DOE in an effort to satisfy the requirements of the post-selection site-specific NEPA process (see Appendix J) will be recognized for cost-sharing purposes. Generation of environmental information not delivered to, and/or not accepted by, DOE will be considered as excess to the requirements for a site-specific NEPA document and will not be recognized as a contribution under this provision. Notwithstanding the above, for purposes of the preparation of the cost proposal, the proposer must assume that all post-selection site specific NEPA process costs occur after award and are shared in proportion to the overall cost-share ratio for Phase I.

#### 4. REVENUES AND RECOVERY OF GOVERNMENT'S INVESTMENT

- o The Government intends to recover an amount up to the Government's contribution to the project. This recovery will only be required if revenues are received from the project, including subsequent commercialization. The recovery will be derived from the sum of the following three sources:

1. During the operational phase of the project: The revenues generated (if any) will be shared in proportion to the overall cost-share for the project. Such revenues will not be considered as offsets to the operating cost. It is recognized that for retrofit projects it may be difficult to distinguish between revenues from the add-on equipment and from the existing equipment. Therefore, the following convention will be used for retrofit to existing equipment: Where the existing equipment is contributed as a portion of the proposer's cost-share, the entire revenue is attributed to the project.
  2. Operations of the demonstration Project beyond the period of performance (if applicable): The net revenue from the operation (after operating costs) will be shared in proportion to the overall cost-share for the project.
  3. Future commercialization: The Government will share in the commercial sale, lease, manufacture, or use of the technology demonstrated under the Clean Coal Technology Program from net revenues of such sales in proportion to the overall cost-share for the project.
- o The decision of whether to dispose of the facility at the end of the cost-shared project, or whether to continue operating the



facility at the proposer's expense, is solely the responsibility of the proposer and must be included as part of the proposal (see SECTION IV.2.2(d)). Proceeds from the sale of project assets will be shared in proportion with the overall cost-share for the duration of the project.

#### 5. COST OVERRUNS

The Government at its own discretion may not fund any cost overruns. However, to the extent that funds are available and federal assistance for overruns is provided, the share of costs incurred during the project that are in excess of those estimated at the date of award of the original financial assistance will not be provided in excess of the proportion of costs borne by the Government in the initial financial assistance agreement, and then only up to 25 percent of the original Government contributions as specified in the financial assistance agreement.

#### 6. FINANCIAL RECORDS

Participants in cooperative agreements are required to maintain financial records adequate to reflect the nature and extent of their costs and to ensure that the required cost participation is achieved.

**APPENDIX A**

**CONGRESSIONAL GUIDANCE**

APPENDIX A

CONGRESSIONAL GUIDANCE

<u>Table of Contents</u>	<u>Page</u>
Pub. L. No. 99-190	A-3
Conf. Report 99-450	A-5
Senate Report 99-141	A-6
House Report 99-205	A-7
House Report 99-236	A-10
Senate Report 99-82	A-11
Pub. L. No. 98-473	A-13
Senate Report 98-578	A-14

PUBLIC LAW NO. 99-190

Joint Resolution Making Further Continuing Appropriations  
for the Fiscal Year 1986, and for Other Purposes

TITLE II - Related Agencies

DEPARTMENT OF THE TREASURY  
Energy Security Reserve  
(Including Rescission)

DEPARTMENT OF ENERGY  
Clean Coal Technology

*Provided further, That of the funds in the Energy Security Reserve prior to the date of enactment of this Act \$400,000,000 shall be available for the Clean Coal Technology Program in the Department of Energy authorized under the Clean Coal Technology Reserve proviso of Public Law 98-473 for the purpose of conducting cost-shared Clean Coal Technology projects for the construction and operation of facilities to demonstrate the feasibility for future commercial applications of such technology, to remain available until expended, of which \$100,000,000 shall be immediately available; (2) an additional \$150,000,000 shall be available beginning October 1, 1986; and (3) an additional \$150,000,000 shall be available beginning October 1, 1987: Provided further, That the proviso in Public Law 98-473 depositing and retaining in the Clean Coal Technology Reserve \$750,000,000 of funds in the Energy Security Reserve rescinded by said Act is amended so as to reduce the current amount of such deposited and retained funds to \$350,000,000:*

*Within 60 days following enactment of this Act, the Secretary of Energy shall, pursuant to the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5801, et seq.), issue a general request for proposals for clean coal technology projects for which the Secretary of Energy upon review may provide financial assistance awards. Proposals for clean coal technology projects under this section shall be submitted to the Department of Energy within 60 days after issuance of the general request for proposals. The Secretary of Energy shall make any project selections no later than August 1, 1986: Provided, That the Secretary may test fee title or other property interests acquired under cost-shared clean coal technology agreements in any entity, including the United States: Provided further, That the Secretary shall not finance more than 50 per centum of the total costs of a project as estimated by the Secretary as of the date of award of financial assistance: Provided further, That cost-sharing by project sponsors is required in each of the design, construction, and operating phases proposed to be included in a project: Provided further, That financial assistance for costs in excess of those estimated as of the date of award of original financial assistance may not be provided in excess of the proportion of costs borne by the Government in the original agreement and only up to 25 per centum of the original financial assistance: Provided further, That revenues or royalties from prospective operation of projects beyond the time considered in the award of financial assistance, or proceeds from prospective sale of the assets of the project, or revenues or royalties from replication of technology in future projects or plants are not cost-sharing for the purposes of this appropriation: Provided further, That other appropriated Federal funds are not cost-sharing for the purposes of this appropriation: Provided further, That existing facilities, equipment, and supplies, or previously expended research or development funds are not cost-sharing for the purposes of this appropriation, except as amortized, depreciated, or expensed in normal business practice.*

DEPARTMENT OF ENERGY  
Administrative Provisions

TITLE III - General Provisions

Section 325

*None of the funds made available to the Department of Energy under this Act shall be used to implement or finance authorized price support or loan guarantee programs unless specific provision is made for such programs in an appropriations Act.*

*The Secretary is authorized to accept lands, buildings, equipment, and other contributions from public and private sources and to prosecute projects in cooperation with other agencies, Federal, State, private, or foreign: Provided, That revenues and other moneys received by or for the account of the Department of Energy or otherwise generated by sale of products in connection with projects of the Department appropriated under this Act may be retained by the Secretary of Energy, to be available until expended, and used only for plant construction, operation, costs, and payments to cost-sharing entities as provided in appropriate cost-sharing contracts or agreements: Provided further, That the remainder of revenues after the making of such payments shall be covered into the Treasury as miscellaneous receipts: Provided further, That any contract, agreement or provision thereof entered into by the Secretary pursuant to this authority shall not be executed prior to the expiration of 30 calendar days (not including any day in which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) from the receipt by the Speaker of the House of Representatives and the President of the Senate of a full and comprehensive report on such project, including the facts and circumstances relied upon in support of the proposed project.*

*Sec. 325. Each amount of budget authority provided in this Act, or made available in the Energy Security Reserve for the Clean Coal Technology Program, for payments not required by law, is hereby reduced by 0.6 per centum: Provided, That such reductions shall be applied ratably to each account, program, activity, and project provided for in this Act:*

## CONFERENCE REPORT (H. REP. 99-450)

### Conference Rep. on Pub. L. 99-190 Making Further Continuing Appropriations for Fiscal Year 1986, and for Other Purposes

#### TITLE II - Related Agencies

##### DEPARTMENT OF THE TREASURY Energy Security Reserve (Including Rescission)

The managers agree to rescind all funds appropriated to the Energy Security Reserve except \$400,000,000 for a clean coal technology program to be administered by the Secretary of Energy in the Department of Energy, and \$10,000,000 for expenses incidental to the closing of the Synthetic Fuels Corporation (SFC). Of the \$400,000,000, \$100,000,000 will be immediately available, \$150,000,000 will be available beginning on October 1, 1984, and \$150,000,000 will be available beginning on October 1, 1987. The remaining funds in the "Clean Coal Technology Reserve" are reduced to \$250,000,000.

##### DEPARTMENT OF ENERGY Clean Coal Technology

The managers have agreed to a \$400,000,000 Clean Coal Technology program as described under the Department of the Treasury, Energy Security Reserve. Bill language is included which provides for the selection of projects no later than August 1, 1986. Within that period, a general request for proposals must be issued within 60 days and proposals must be submitted to the Department within 60 days after issuance of the general request for proposals. Language is also included allowing the Secretary of Energy to vest title in interests acquired under agreements in any entity, including the United States, and delineating cost-sharing requirements. Funds for these activities and projects are made available to the Clean Coal Technology program in the Energy Security program.

It is the intent of the managers that contributions in the form of facilities and equipment be considered only to the extent that they would be amortized, depreciated or expensed in normal business practice. Normal business practice shall be determined by the Secretary and is not necessarily the practice of any single proposer. Property which has been fully depreciated would not receive any cost-sharing value except to the extent that it has been in continuous use by the proposer during the calendar year immediately preceding the enactment of this Act. For this property, a fair use value for the life of the project may be assigned. Property offered as a cost-share by the proposer that is currently being depreciated would be limited in its cost-share value to the depreciation claimed during the life of the demonstration project. Furthermore, in determining normal business practice, the Secretary should not accept valuation for property sold, transferred, exchanged, or otherwise manipulated to acquire a new basis for depreciation purposes or to establish a rental value in circumstances which would amount to a transaction for the mere purpose of participating in this program.

The managers agree that, with respect to cost-sharing, tax implications of proposals and tax advantages available to individual proposers should not be considered in determining the percentage of Federal cost-sharing. This is consistent with current and historical practices in Department of Energy procurements.

It is the intent of the managers that there be full and open competition and that the solicitation be open to all markets utilizing the entire coal resource base. However, projects should be limited to the use of United States mined coal as the feedstock and demonstration sites should be located within the United States.

The managers agree that no more than \$1,500,000 shall be available in FY 1986 and \$2,000,000 each year thereafter for contracting, travel, and ancillary costs of the program, and that manpower costs are to be funded under the fossil energy research and development program.

The managers direct the Department, after projects are selected, to provide a comprehensive report to the Congress on proposals received.

The managers also expect the request for proposals to be for the full \$400,000,000 program, and not only for the first \$100,000,000 available in fiscal year 1984.

## TITLE III - General Provisions

### Section 325

A new section 325 is included which provides a 0.6 percent reduction for budget authority included in the bill for payments not required by law, and for amounts available for the Clean Coal Technology Program in the Energy Security Reserve. The reduction must be taken ratably for each program, activity, and project provided for in the Act.

SENATE REPORT 99-141  
(To accompany H.R. 3011)

### Department of the Interior and Related Agencies Appropriation Bill, 1986

#### DEPARTMENT OF ENERGY

##### CLEAN COAL TECHNOLOGY RESERVE

1985 appropriation .....	
1986 budget estimate .....	
House allowance (by transfer):	
1986 .....	(\$100,000,000)
1987 .....	(200,000,000)
1988 .....	(200,000,000)
Committee recommendation:	
1986 .....	100,000,000
1987 .....	(175,000,000)
1988 .....	(300,000,000)
1989 .....	(175,000,000)

The Committee recommends an appropriation of \$100,000,000 in fiscal year 1986 for the Clean Coal Technology Program as well as advance appropriations of \$175,000,000, \$300,000,000, and \$175,000,000 for fiscal year 1987, fiscal year 1988, and fiscal year 1989 respectively. This program was established by Public Law 98-473 "for the purpose of conducting cost-shared clean coal technology projects for the construction and operation of facilities to demonstrate the feasibility for future commercial operation." Pursuant to section 321 of that act, the Department solicited statements of interest in clean coal projects and received 175 responses.

The Committee has not agreed to the transfer of funds from moneys available to the Synthetic Fuels Corporation to the Department of Energy to initiate the Clean Coal Technology Program as proposed by the House, but has instead recommended the multiyear appropriations of new budget authority now. This approach is intended to ensure industry of a firm Federal commitment to a \$750,000,000 program. Removing the uncertainty of future funding will reduce apparent risk to the private sector and should help the Government negotiate more favorable cost-sharing arrangements. Clear Federal commitment will stimulate greater competition and likely produce better projects. Also, the provision of multiyear funding is intended to be a strong congressional signal that the Department of Energy is expected to enter into multi-year contracts with project sponsors.

In addition to making advance appropriations, as noted previously, the Committee has recommended bill language requiring the Secretary to issue a general solicitation for clean coal projects within 30 calendar days after enactment of this legislation, to close this solicitation within 60 days, and to select projects for awards 90 days thereafter. Language proposed by the House relating to levels and forms of cost sharing have been retained in the bill. Earlier project selection criteria which were contained in Senate Report 99-82 on the fiscal year 1985 supplemental appropriations bill and which were modified in the statement of the managers, House Report 99-236, continue in force.

99TH CONGRESS  
1st Session

HOUSE OF REPRESENTATIVES

REPORT  
99-205

**DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES  
APPROPRIATION BILL, 1986**

(To accompany H.R. 3011)

**DEPARTMENT OF ENERGY**

**CLEAN COAL TECHNOLOGY RESERVE**

**(TRANSFER OF FUNDS)**

Appropriation, 1985	_____	
Budget estimate, 1986	_____	
Recommended, 1986	_____	(\$100,000,000)
Comparison:		
Appropriation, 1985	_____	(+ 100,000,000)
Budget estimate, 1986	_____	(+ 100,000,000)
Recommended, 1987	_____	(300,000,000)
Recommended, 1988	_____	(350,000,000)

The clean coal technology reserve was established by Public Law 98-473, the Act making continuing appropriations for fiscal year 1985. At the same time, the law required the Department of Energy to solicit "statements of interest in, and proposals for projects employing emerging clean coal technologies". The response to the Department's solicitation was impressive, with over 170 responses received even though respondents were aware that no funding was available.

There appears to be a consensus building that some government impetus is necessary to assist in the development of technologies beyond the scale of the ongoing research and development programs in the Department of Energy. At the same time, it is apparent that very large scale facilities of the type originally envisioned to be sponsored by the Synthetic Fuels Corporation (SFC) will require too large a subsidy to attract either government or industry



interest. This is evidenced by the SFC's stated intent to reduce the scale and adjust the support of candidate projects before the Corporation.

The foregoing situation, combined with the need to develop technologies that will use coal cleanly, either for power generation or to fuel other equipment or vehicles, leads the Committee to recommend the transfer of \$750,000,000 from the funds available to the Synthetic Fuels Corporation to the Department of Energy for clean coal technology. The funds are to be derived from the \$5.7 billion currently available for projects for which Letters of Intent were authorized on or before June 1, 1984.

Air pollution, particularly acid rain, is a problem of growing concern in the Nation. In addition, significant new generating capacity will be required by utilities in the 1990's. In view of the collapse of the nuclear construction industry, the only viable alternative appears to be coal-fired plants. Therefore, it becomes imperative to demonstrate technologies that use coal cleanly and efficiently, so that needed generating capacity will be available on time, and with minimal environmental impact. Technologies that can be retrofitted to existing applications of coal will also provide pollution relief. Clean uses of coal in other applications will also reduce dependence on foreign oil as well as increase coal markets.

In order to show the long-term commitment of the Congress to this program, appropriations are recommended for three years; \$100,000,000 for fiscal year 1986, \$300,000,000 to become available in fiscal year 1987, and \$350,000,000 to become available in fiscal year 1988. The Committee believes such an action is necessary in order to assure serious industry proposals with concomitant commitments, including cost-sharing. Staging the availability also allows for orderly review of the program.

The Committee believes that projects in this program should be industry projects assisted by the government, and not government directed demonstrations. To emphasize this view the Committee has included a requirement that government funding not exceed 50% of project cost. The Committee also has included provisions related to cost-sharing to provide that:

- (1) Project sponsors must cost-share in each phase of the project.
- (2) If the government participates in sharing costs above the original estimate, it may not be in a greater proportion than was shared originally and then only up to 25% of the original amount of assistance.
- (3) Future considerations such as royalties and revenue sharing from other plants or operations are not considered cost-sharing. The Department is, however, encouraged to negotiate such considerations if possible.
- (4) Other appropriated Federal funds are not considered cost-sharing.
- (5) In-kind contributions, such as supplies, equipment, facilities, and previously expended research and development funds will only be considered cost-sharing to the extent that they would be expensed, amortized, or depreciated in normal business practice. Thus, for example, fully depreciated or amortized investments would not be considered cost-sharing, nor would supplies previously expensed against income rather than placed in inventory.

The Committee believes that the above cost-sharing provisions will lead to carefully considered proposals from industry because industry will be required to provide significant funds of its own from the beginning of the project. This was a failing of the original Department demonstration program and many of its large scale pilot facilities.

Finally, the Committee has included a requirement for the Department to issue a general request for proposals within 90 days of enactment of the Act, and then move promptly into the contract process. As a result of the informational proposals received pursuant to the continuing resolution in fiscal year 1985, sufficient prior work has been done so that the process can proceed expeditiously. The Committee expects a full and open competition and has not favored any technology or project.

Many sources in Congress and elsewhere have been suggesting technical or procedural criteria for the selection of projects, and in general, the criteria suggested appear reasonable. The Committee observes that the criteria tend to concentrate on utility applications, and believes that although these are very important, other applications such as industrial, including steel and iron ore processing, and transportation uses are also of interest. The preparation of clean coal fuels is also important in itself.

The Committee believes that this program can be a significant step in reducing the environmental effects of coal burning, in increasing power generation options, in introducing new coal burning equipment, and in increasing markets for coal and coal-derived products, which will offset oil imports in the future.

CONFERENCE REPORT (H. REPT. 99-236)

CONFERENCE REPORT ON PUB. L. NO. 99-88,

MAKING SUPPLEMENTAL APPROPRIATIONS FOR THE  
FISCAL YEAR ENDING SEPTEMBER 30, 1985, AND FOR  
OTHER PURPOSES

DEPARTMENT OF ENERGY

CLEAN COAL TECHNOLOGY

The managers agree with the clean coal technology project guidelines contained in Senate Report 99-82 with the following modifications:

I. GENERAL PROJECT GUIDELINES:

2. The project should utilize or expand the utility of technologies, techniques or processes which do not duplicate a commercial scale demonstration currently being conducted in the United States.

3. The clean coal technology, alone or in conjunction with other technologies, must result in emission levels that comply with or exceed Clean Air Act requirements, in a cost-effective manner.

and,

IV. ENVIRONMENTAL BENEFITS:

1. The commercial application of the clean coal technology for retrofit applications on fossil fuel-fired plants is likely to result in a reduction of emissions from the use of coal at a cost which is competitive with the cost of achieving comparable emission reductions by current technology.

The managers agree that the clean coal technology project criteria contained in the Senate report provide useful guidance for the development of a competitive solicitation for cost-shared clean coal technology projects, and that the Department of Energy should immediately begin preparing such a solicitation document so that it can be issued as soon as possible after the beginning of fiscal year 1986, if funds are provided. To the extent that technologies traditionally supported by the Environmental Protection Agency (EPA) are part of the solicitation or responses to it, as well as on environmental regulatory considerations, the Department should consult with EPA.

SUPPLEMENTAL APPROPRIATIONS BILL, 1985

REPORT

[To accompany H.R. 2577]

DEPARTMENT OF ENERGY

FOSSIL ENERGY RESEARCH AND DEVELOPMENT

The Committee has developed the following clean coal technology project criteria in an effort to assist the Department in establishing criteria for eventual project selection, in the event that clean coal technology funds are appropriated. The Committee urges the Department to begin preparation of a competitive solicitation for clean coal technology demonstrations so that fiscal year 1986 funds, if provided, can be obligated in a timely manner.

In conducting the solicitation, the Committee expects that it will be a full and open competition. The Committee further anticipates that the solicitation will be open to all market applications utilizing the entire coal resource base. Consideration also should be given to heavily regulated electric utilities and related industrial boiler markets. Eventual project selection should not be duplicative of current marketplace activities. The Committee considers the following criteria as representative of those to be used by the Department in the evaluation of proposals received under a full and open competitive solicitation.

I. General project guidelines:

1. The project must demonstrate commercial feasibility of the technology or process and be of commercial scale or of such size as to permit rapid commercial scaleup.
2. The project should utilize technologies, techniques or processes which do not duplicate a commercial scale demonstration currently being conducted in the United States.
3. The clean coal technology must result in emission levels that comply with or exceed Clean Air Act requirements, in a cost-effective manner.
4. The technology to be demonstrated should be available for commercial application no later than the 1990's.
5. The project sponsor(s) must be willing to commit at least 50 percent cost sharing including, but not limited to, project sponsor funds or other resources. In determining the degree of Federal sponsorship, the Government should take into account the total estimated costs of the project and the degree of risks and ultimate benefits associated with the technology.
6. The project sponsor(s) must have relevant experience and possess the capability and resources to assure the project is properly engineered, constructed and operated.

**II. Subsequent applicability of the technology:**

1. The clean coal technology to be demonstrated in either new or retrofit applications must provide significant potential for replication.
2. The project must provide useful technical, environmental, operational, performance, and economic data to reduce the uncertainties of subsequent commercial scale utilization of the technology.

**III. Technical feasibility:**

1. Sufficient technical data (including data developed from pilot plant operations, if any) should be available to determine that the demonstration will have a significantly high probability of success.
2. The technology should have been successfully tested at the bench scale or subsequent stage of development.

**IV. Environmental benefits:**

1. The commercial application of the clean coal technology for retrofit applications on coal-fired plants is likely to result in a reduction of emissions at a cost which is competitive with the cost of achieving that reduction by current technology.
2. The commercial application of the clean coal technology for precombustion cleanup shall result in reductions in sulfur and ash content which will allow compliance with emissions requirements in a cost-effective manner.
3. The commercial application of the technology for new applications shall achieve emission levels equal to or better than the new source performance standards for that source category in a cost-effective manner.
4. The amounts and characteristics of waste products must be identified and processes for proper handling and disposal (or utilization or regeneration) in an environmentally acceptable manner must be in the project proposal.

**V. Economic feasibility:**

1. The projected commercial application should be economically attractive.
2. The project, where appropriate, should include characteristics which permit modularity, shop fabrication of transportable components, operating flexibility or maintainability and reliability of units, or other characteristics which permit shortened construction periods or lower overall capital costs for subsequent commercial projects.

PUBLIC LAW 98-473 - OCT. 12, 1984

JOINT RESOLUTION

Making continuing appropriations for the Fiscal Year 1985,  
and for other purposes.

DEPARTMENT OF THE TREASURY

ENERGY SECURITY RESERVE

(RESCISSION)

*Provided further,* That of the \$5,375,000,000 rescinded from the Energy Security Reserve, \$750,000,000 shall be deposited and retained in a separate account hereby established in the Treasury of the United States, entitled the "Clean Coal Technology Reserve," which account and the appropriations therefor, shall be available for the purpose of conducting cost-shared clean coal technology projects for the construction and operation of facilities to demonstrate the feasibility for future commercial application of such technology, including those identified in section 320 of the fiscal year 1985 Department of the Interior and Related Agencies Appropriations Act, as reported by the Senate Committee on Appropriations (H.R. 5973, Senate Report 98-578), without fiscal year limitation, subject to subsequent annual appropriation in the Department of the Interior and Related Agencies Appropriations Act.

TITLE III—GENERAL PROVISIONS

**Sec. 321.** The Secretary of Energy pursuant to the Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93-577), shall—

(1) no later than sixty days after the date of the enactment of this Act, publish in the Federal Register a notice soliciting statements of interest in, and proposals for projects employing emerging clean coal technologies, which statements and proposals are to be submitted to the Secretary within ninety days after the publication of such notice; and

(2) no later than April 15, 1985, submit to Congress a report that analyzes the information contained in such statements of interest and proposals, assesses the potential usefulness of each emerging clean coal technology for which a statement of interest or proposal has been received, and identifies the extent to which Federal incentives, including financial assistance, will accelerate the commercial availability of these technologies.

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES  
APPROPRIATION BILL, 1985

REPORT

[To accompany H.R. 5973]

The Committee has observed with disappointment the retreat from private sector plans for development of synthetic fuels over the last few years. Clearly there are many reasons why synthetic fuel technologies are not being commercialized at even a small fraction of the rate envisioned when the Energy Security Act was passed in 1980; among these are the lower than anticipated cost of alternative fuel resources in the near term, the higher than anticipated costs of some developing technologies, and the difficulty in raising the large capital sums required during a period of high interest rates.

The overriding requirement to make this Nation's abundant supplies of coal, oil shale, and other resources available for use in an environmentally acceptable manner continues to be of high priority to the Committee. It is our belief that an aggressive, ongoing program of research, development, and where appropriate, testing, is essential to improve process efficiency, reduce capital costs, and enhance environmental performance of the various synthetic and other fossil energy technologies. The recommended program supports these goals and is necessary to help insure the energy security and energy independence of this Nation.

The Committee has included a provision, section 320 of the general provisions, directing the Secretary of Energy to solicit statements of interest and proposals from the private sector for projects employing emerging clean coal technologies. The purpose of this provision is to—

- (1) Identify emerging clean coal technologies that may be commercialized in the near term for reducing emissions from new and existing coal-burning powerplants and from industrial coal uses; and
- (2) Determine what incentives, including financial assistance, the Federal Government should provide to assure the earliest practicable commercial availability of these emerging clean coal technologies.

These activities of the Secretary are authorized under sections 103 and 107(a) of the Energy Reorganization Act of 1974, and the Federal Nonnuclear Energy Research and Development Act of 1974 (Public Law 93-577).

The Committee intends to base fiscal year 1986 appropriations decisions on funding for new projects under Public Law 93-577 on the results of this solicitation.

Emerging clean coal technologies are technologies for using coal in electric utility and large industrial applications that reduce sulfur and other emissions resulting from such uses to levels that are required, or may be required, for compliance with the Clean Air Act, as amended.

Examples of such emerging clean coal technologies include, but are not limited to the following: (1) advanced coal preparation and cleaning; (2) limestone injection multistage burners [LIMB]; (3) flue gas desulfurization processes that produce only dry discharges; (4) regenerable flue gas desulfurization; (5) furnace retrofit of in-boiler sulfur control technology; (6) atmospheric fluidized bed combustion systems of a size appropriate to the electric utility market; (7) repowering applications of a pressurized fluidized bed in a large oil-fired boiler; (8) phosphoric acid fuel cell systems using coal-derived gas; (9) coal-fired gas turbines in second-generation combined-cycle systems; and (10) low cost, easily replicable, sources of fuel gas for multimarkets.

Proposed projects solicited under this provision should be large enough to demonstrate commercial feasibility of the technology or, if not, at least permit rapid scaleup to commercial size.

Statements of interest submitted to the Secretary under this provision shall propose a project employing at least one emerging clean coal technology and shall include: (1) a description of the technology to be employed and of the overall project; (2) a comparison of the proposed project with any similar project or facility in existence; (3) the proposed ownership of the project facility; (4) the projected capital, operating, and testing cost and a schedule for construction and testing of the project facility; (5) the characteristics of the coal to be used; (6) the emissions reductions to be achieved by the facility; (7) the proposed financing of the project, including a statement of any cost sharing or incentives, including any financial assistance, that should be provided by the Federal Government and the justification for such incentives; (8) a statement of the project economics which identifies the assumptions used; and (9) a plan which outlines the uses for the products of the proposed facility.

The Secretary is required to submit to Congress no later than April 15, 1985, a report analyzing the information received in the statements of interest and proposals under this provision, assessing the potential usefulness of each technology for which a statement of interest or proposal has been received, and identifying the extent to which Federal incentives will accelerate the commercial availability of these technologies for electric utility and large industrial uses of coal.



APPENDIX B

MODEL COOPERATIVE AGREEMENT

U.S. DEPARTMENT OF ENERGY  
NOTICE OF FINANCIAL ASSISTANCE AWARD  
(See Instructions on Reverse)Under the authority of Public Law 95-91; P.L. 93-577; & P.L. 99-190  
subject to legislation, regulations and policies applicable to (cite legislative program title):

<b>1. PROJECT TITLE</b>		<b>2. INSTRUMENT TYPE</b> <input type="checkbox"/> GRANT <input type="checkbox"/> COOPERATIVE AGREEMENT	
<b>3. RECIPIENT (Name, address, zip code, area code and telephone no.)</b>		<b>4. INSTRUMENT NO.</b>	
<b>5. RECIPIENT PROJECT DIRECTOR (Name and telephone No.)</b>		<b>5. AMENDMENT NO.</b>	
<b>6. RECIPIENT BUSINESS OFFICER (Name and telephone No.)</b>		<b>6. BUDGET PERIOD</b> FROM:      THRU:	
<b>7. DOE PROJECT OFFICER (Name, address, zip code, telephone No.)</b>		<b>7. PROJECT PERIOD</b> FROM:      THRU:	
<b>8. RECIPIENT TYPE</b> <input type="checkbox"/> STATE GOVT <input type="checkbox"/> INDIAN TRIBAL GOVT <input type="checkbox"/> HOSPITAL <input type="checkbox"/> FOR PROFIT ORGANIZATION <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> LOCAL GOVT <input type="checkbox"/> INSTITUTION OF HIGHER EDUCATION <input type="checkbox"/> OTHER NONPROFIT ORGANIZATION <input type="checkbox"/> C <input type="checkbox"/> P <input type="checkbox"/> SP <input type="checkbox"/> OTHER (Specify) _____		<b>10. TYPE OF AWARD</b> <input type="checkbox"/> NEW <input type="checkbox"/> CONTINUATION <input type="checkbox"/> RENEWAL <input type="checkbox"/> REVISION <input type="checkbox"/> SUPPLEMENT	
<b>12. ADMINISTERED FOR DOE BY (Name, address, zip code, telephone No.)</b>		<b>13. EMPLOYER I.D. NUMBER/SSN</b>	
<b>14. ACCOUNTING AND APPROPRIATIONS DATA</b> a. Appropriation Symbol      b. S & R Number      c. FT/APF/OC      d. CFA Number		<b>15. BUDGET AND FUNDING INFORMATION</b>	
<b>a. CURRENT BUDGET PERIOD INFORMATION</b> (1) DOE Funds Obligated This Action      \$ _____ (2) DOE Funds Authorized for Carry Over      \$ _____ (3) DOE Funds Previously Obligated in this Budget Period      \$ _____ (4) DOE Share of Total Approved Budget      \$ _____ (5) Recipient Share of Total Approved Budget      \$ _____ (6) Total Approved Budget      \$ _____		<b>b. CUMULATIVE DOE OBLIGATIONS</b> (1) This Budget Period (Total of lines a.(1) and a.(3))      \$ _____ (2) Prior Budget Periods      \$ _____ (3) Project Period to Date (Total of lines b. (1) and b. (2))      \$ _____	
<b>17. TOTAL ESTIMATED COST OF PROJECT</b> \$ _____ (This is the current estimated cost of the project. It is not a promise to award nor an authorization to expend funds in this amount.)			
<b>18. AWARD/AGREEMENT TERMS AND CONDITIONS</b> This award/agreement consists of this form plus the following: a. Special terms and conditions (if grant) or schedule, general provisions, special provisions (if cooperative agreement) b. Applicable program regulations (specify) _____ (Date) _____ c. DOE Assistance Regulations, 10 CFR Part-600, as amended, Subparts A and <input type="checkbox"/> B (Grants)      or <input type="checkbox"/> C (Cooperative Agreements). d. Application/proposal dated _____ <input type="checkbox"/> as submitted <input type="checkbox"/> with changes as negotiated			
<b>19. REMARKS</b>			
<b>20. EVIDENCE OF RECIPIENT ACCEPTANCE</b>  (Signature of Authorized Recipient Official)      (Date) _____  _____ (Name)  _____ (Title)		<b>21. AWARDED BY</b>  _____ (Signature)      (Date) _____  _____ (Name)  _____ (Title)	

## INSTRUCTIONS

*(This form shall be completed in accordance with the following instructions. For any clarification or additional information that might be needed, consult the appropriate section of the DOE Financial Assistance Procedures Manual (DOE-FAPM).)*

Insert in the space provided, in the line which begins, "Under the Authority of Public Law . . .," the number and the name of the Public Law which authorizes this award. On the line below, enter the title of the pertinent program.

**Block 1** - Enter the project title as it appears in the SF-424 or equivalent application/proposal face sheet.

**Block 2** - Place a checkmark in the box beside the appropriate financial assistance instrument.

**Block 3** - Enter the name, address and telephone number of the applicant/proposer as it appears in the SF-424 or equivalent application/proposal face sheet.

**Block 4** - Enter the instrument number. (See DOE-FAPM.)

**Block 5** - Enter the appropriate amendment number. (See DOE-FAPM for guidance.)

**Block 6** - Enter the starting date and expiration date for the current budget period. If a budget period is being changed, enter the starting date and expiration date for the budget period, as changed.

**Block 7** - Enter the starting date and anticipated completion date for the project. If a project period is being changed, enter the starting date and anticipated completion date for the project period, as changed.

**Block 8** - Enter the name and telephone number of the individual designated by the applicant/proposer as the director of the project.

**Block 9** - Enter the name and telephone number of the individual designated by the applicant/proposer as the contact for all business matters.

**Block 10** - Place a checkmark in the box opposite the term which identifies the type of action being taken. (The terms are defined in the DOE-FAPM.)

**Block 11** - Enter the name, address and telephone number of the individual designated by the DOE program office as the project officer.

**Block 12** - Enter the name, address and telephone number of the individual/organization who will administer the agreement for DOE.

**Block 13** - Place a checkmark in the box beside the applicable recipient type. If the recipient is a for-profit organization also check one of the lower boxes as follows: "C" for Corporation, "P" for Partnership and "SP" for Sole Proprietorship. If the recipient is of a type not indicated place a checkmark in the box beside "Other," and identify the recipient type in the space provided.

**Block 14** - Enter where indicated, the appropriation symbol, B&R number, Fund Type (FT)/AFP Code (AFP)/Objective Class (OC) and CFA Number from the Procurement/Financial Assistance Request Authorization (DOE Form PR-799A). Completion of Block 14.d. is required only for awards made by Headquarters.

**Block 15** - Enter the applicant's/proposer's Federal Employer Identification No. from the SF-424 or equivalent application/proposal face sheet, or if the applicant/proposer is an individual, enter his/her social security number.

**Block 16** - Entries should be made as follows. (If no dollar amount appropriate a zero should be entered to indicate there was no omission.)

Line a.(1) - Enter the amount of DOE funds obligated by this award.

Line a.(2) - Enter the amount of DOE funds not expended in budget period(s), if any, authorized by DOE for expenditure in the current budget period.

Line a.(3) - Enter the amount of DOE funds previously obligated in the current budget period.

Line a.(4) - Enter DOE's share of the total approved budget shown on Line a.(6).

Line a.(5) - Enter the recipient's share of the total approved budget shown on Line a.(6).

Line a.(6) - Enter the total approved budget for the current budget period. (Add the amounts in lines a.(4) and a.(5).)

Line b.(1) - Enter the amount of DOE funds obligated in the current budget period. (Add the amounts in lines a.(1) and a.(3).)

Line b.(2) - Enter the amount obligated by DOE in prior budget periods.

Line b.(3) - Enter the amount obligated by DOE in the prior period to date. (Add the amounts in lines b.(1) and b.(2).)

**Block 17** - Must be completed for cooperative agreements. Contracting Officers may exercise discretion as to whether to complete this block for grants. Enter in the blank provided, the amount which represents current estimate of total funds and dollar value of in-kind contributions (both DOE and recipient shares) needed to carry out the entire project. Include all funds and contributions previously provided, those being provided by this action, and all anticipated future obligations and contributions of both parties.

**Block 18** - Complete as follows:

Item a. - No entry necessary.

Item b. - Enter the legal citation from the Code of Federal Regulations or Federal Register and the effective date for the program regulation applicable to the program under which the award is made.

Item c. - Mark the box beside B for grants or C for cooperative agreements.

Item d. - In the blank provided, enter the date of the application/proposal. (If SF-424 is used, see block 23c on page 1.) Place checkmark in the appropriate box to indicate whether the application/proposal was accepted as submitted or with negotiated changes.

**Block 19** - Enter any explanation or advisory comments which are required for, or applicable to, this action.

**Block 20** - Will be completed by the recipient.

**Block 21** - The Contracting Officer shall sign and date the top line. His/her name and title should be entered on the next two lines. This must be signed prior to forwarding to recipient.

## MODEL COOPERATIVE AGREEMENT

The enclosed model cooperative agreement is structured for a profit making concern. If the recipient is other than a profit making concern, clauses in the General Provisions will be replaced with appropriate OMB Circular requirements. Depending on the type of recipient such OMB Circular coverage shall be as follows:

(1) For non profit organizations

- o OMB Circular A-110, Uniform Administrative Requirements
- o OMB Circular A-124, Patents
- o OMB Circular A-122, Cost Principles

(2) For State/Local Governments

- o OMB Circular A-102, Uniform Administrative Requirements
- o OMB Circular A-87, Cost Principles

(3) For institutions of higher education

- o OMB Circular A-110, Uniform Administrative Requirements
- o OMB Circular A-124, Patents
- o OMB Circular A-21, Cost Principles

In addition, certain clauses contained herein, especially those shown in brackets, cannot be completed until the nature and scope of the project selected are known. Any proposed exceptions or deviations taken with respect to the model cooperative agreement, or the attachments thereto, must be detailed in the Business Management Volume of the proposal as explained in SECTION IV, "Proposal Preparation Instructions."

## TABLE OF CONTENTS

### PAGE NO.

NOTICE OF FINANCIAL ASSISTANCE AWARD

TABLE OF CONTENTS

LISTING OF SCHEDULE ARTICLES:

ARTICLE I	-	STATEMENT OF JOINT OBJECTIVES	1
ARTICLE II	-	PROJECT MANAGEMENT PLAN	1
		(A) PARTICIPANT ROLE	2
		(B) DOE ROLE	2
		(C) PROJECT PERFORMANCE	4
		(D) RESOURCES AND ACCESS	5
ARTICLE III	-	FINANCIAL SUPPORT	6
		(A) DOE OBLIGATION	6
		(B) COST SHARING AND PROJECT COST REQUIREMENTS	6
		(C) PRIOR APPROVALS	7
		(D) PROGRAM INCOME/REVENUE	8
		(E) ADDITIONAL FUNDS	9
		(F) DOE/PARTICIPANT SHARE OF ADDITIONAL FUNDS	9
		(G) TOTAL ESTIMATED PROJECT COST	10
		(H) ADMINISTRATION OF PROJECT COSTS	12
ARTICLE IV	-	PAYMENT ARTICLE	12
ARTICLE V	-	PROJECT INFORMATION SYSTEM	13
ARTICLE VI	-	PROPERTY MANAGEMENT AND DISPOSITION	13
ARTICLE VII	-	TERMINATION AND WITHDRAWAL	14
		(A) TERMINATION BY MUTUAL AGREEMENT	14
		(B) TERMINATION FOR DEFAULT	14
		(C) WITHDRAWAL	14

	<u>PAGE NO.</u>
ARTICLE VIII - KEY PERSONNEL	15
ARTICLE IX - PUBLIC INFORMATION RELEASE	15
ARTICLE X - DESIGNATION OF THE DOE CONTRACTING OFFICER'S REPRESENTATIVES	16
ARTICLE XI - INSURANCE AND INDEMNITY	16
(A) HAZARD (PROPERTY DAMAGE)	17
(B) FLOOD INSURANCE	17
(C) INDEMNITY	17
ARTICLE XII - BONDING FOR CONSTRUCTION	18
ARTICLE XIII - TECHNICAL AND ECONOMIC EVALUATION	18

LISTING OF ATTACHMENTS:

- ATTACHMENT A - STATEMENT OF WORK (TO BE INSERTED AT TIME OF AWARD)
- ATTACHMENT B - GENERAL PROVISIONS
- ATTACHMENT C - DOE FORM 459A - FEDERAL ASSISTANCE REPORTING CHECKLIST
- ATTACHMENT D - BILLING INSTRUCTIONS (TO BE INSERTED AT TIME OF AWARD)

7

ARTICLE I - STATEMENT OF JOINT OBJECTIVES

The primary objective of this Cooperative Agreement is to conduct a cost shared clean coal technology project to demonstrate the feasibility of the technology for future commercial applications.

[Additional contents of this Article shall be specific to the proposed project selected for support and shall be inserted during negotiations following such selection. This Article shall, as a minimum, be expanded in sufficient detail to demonstrate:

- 1) that the Cooperative Agreement is in fact an undertaking of a clearly defined objective;
- 2) that the basis for the endeavor is founded on support or stimulation of a public purpose as specifically authorized by federal statute (P.L. 99-190);
- 3) that the activity to be undertaken is in furtherance of the DOE mission; and
- 4) the benefits to be derived from performance of the project.]

ARTICLE II - PROJECT MANAGEMENT PLAN

The Project Management Plan consists of the following:

- (A) Participant Role.
- (B) DOE Role.
- (C) Project Performance.
- (D) Resources and Access.

#### (A) Participant Role

The Participant shall be responsible for all aspects of project performance under this Cooperative Agreement. This shall include:

- 1) Design and Permitting.
- 2) Construction and Startup ("Shakedown").
- 3) Operation, Data Collection, Reporting, and Disposition.

The Participant shall designate a Project Manager who shall serve as his authorized representative for the technical and administrative performance of all work to be performed under this Cooperative Agreement. This Project Manager shall become the single authorized point of contact for all matters between the Participant and the DOE.

#### (B) DOE Role

The DOE shall be responsible for monitoring all aspects of the project and for granting or denying all approvals required by this Agreement. The DOE Contracting Officer is the authorized representative of the DOE for all matters related to the Cooperative Agreement.

The DOE Contracting Officer will appoint a Contracting Officer's Technical Representative (COTR) who is the authorized representative for all technical matters and has the authority to issue "Technical Direction" which may:



- 1) Suggest redirection of the Cooperative Agreement effort, recommend a shifting of work emphasis between work areas or tasks, and suggest pursuit of certain lines of inquiry which assist in accomplishing the Statement of Work.
- 2) Approve those technical reports and technical information required to be delivered by the Participant to the DOE under this Cooperative Agreement.

The DOE COTR does not have the authority to issue any technical direction which:

- 1) Constitutes an assignment of additional work outside the Statement of Work.
- 2) In any manner causes an increase or decrease in the total estimated cost, or the time required for Cooperative Agreement performance.
- 3) Changes any of the terms, conditions, or specifications of the Cooperative Agreement.
- 4) Interferes with the Participant's right to perform the terms and conditions of the Cooperative Agreement.

All technical directions shall be issued in writing by the DOE COTR.

(C) Project Performance

- 1) All work to be performed under this Cooperative Agreement will be divided into three phases, in accordance with the Statement of Work, Attachment A. Those phases, and their expected durations are:

Phase I     Design and Permitting (\_\_\_\_\_ months)

Phase II    Construction and Startup (\_\_\_\_\_ months)

Phase III   Operation, Data Collection, Reporting and Disposition  
(\_\_\_\_\_ months)

- 2) Determination to proceed with subsequent phases:

Budget periods will be established to coincide with the project phases. Consistent with Pub. L. No. 99-190, DOE will obligate sufficient funds to cover its share of the cost for each budget period. To continue work beyond the current project phase, the Participant shall submit a project evaluation report and a continuation application to the DOE Contracting Officer at least 60 days prior to the end of the current budget period. The continuation application shall contain, as a minimum, the following:

- a detailed report of technical progress;
- a detailed description of the Participant's plans for the conduct of the subsequent phase;
- the detailed budget for the subsequent phase.

DOE will approve or disapprove the continuation application 30 days prior to the end of the current budget period. DOE will approve the continuation application provided the criteria in the approved Project Evaluation Plan (see Article XIII) are met and appropriated funds are available for the project. In determining whether the criteria have been met, DOE will consider the Participant's Project Evaluation Report and other available information. In the event the DOE does not approve the continuation application, DOE shall bear no costs of the project in excess of the maximum DOE obligation through the current budget period.

#### (D) Resources and Access

All services, facilities, equipment, materials, and supplies shall be furnished by the Participant, unless otherwise specified under this Cooperative Agreement.

All work shall be performed at \_\_\_\_\_. At the request of the DOE Contracting Officer or the COTR, the Participant shall provide Government officials and interested members of the public with access to the site(s) of the project to view its operation at reasonable times and in reasonable numbers of persons.

[This Article shall also contain appropriate portions of the offeror's proposal which are specific to the project selected and which detail the management structure proposed, as revised through negotiations between the DOE and the participant.]

### ARTICLE III - FINANCIAL SUPPORT

#### (A) DOE Obligation

The maximum DOE obligation to the Participant is the amount identified in Block 16.b(3) of the Notice of Financial Assistance Award. DOE shall not be obligated to make any additional, supplemental, continuation, renewal, or other award for the same or any other purpose.

#### (B) Cost Sharing and Project Cost Requirements

[The cost-sharing requirements and project cost requirements will be contained in this portion of the Cooperative Agreement. At a minimum, subparagraphs 2 and 3, entitled "Project Costs Not Allowed for Cost-Sharing Purposes," and "Allowable Project Costs for Cost-Sharing Purposes" in Section VI, "Government Financial Participation," of the PON will be restated in this section of the Cooperative Agreement.]

(C) Prior Approvals

1) NEPA

The National Environmental Policy Act (NEPA) requires the DOE to consider the impact of the project on the environment. Due to the NEPA requirement the Participant will be required to supply to DOE certain environmental information and design information before detailed design work can start. No DOE funds may be expended by the Participant on detailed design, construction or operation unless and until DOE notifies the Participant that all NEPA requirements have been satisfied.

2) Phase Overlap Activities

(a) Overlap activities included in current budget.

Notwithstanding that funds may have been obligated in the current budget period for phase overlap activities, the Participant shall not incur costs for any of these activities until prior approval has been given by the DOE Contracting Officer.

(b) Overlap activities not included in current budget.

The Participant may request DOE approval for revision of a budget for the current budget period to allow for other phase overlap activities not already included in the budget for that period. This request shall include a revised budget for the current period which specifically identifies such activities and shall provide a written explanation of the benefits to accrue by their early initiation.

(D) Program Income/Revenue

It is the policy of DOE to recover an amount up to the Government's contribution to the project. This recovery shall be derived from the sum of at least the following potential revenue sources: (1) Operations of the demonstration project beyond the operating phase of the Cooperative Agreement. The net revenue from the operation (after operating costs) will be shared in proportion to the overall cost-share for the project. (2) the commercial sale, lease, manufacture, licensing or use of the technology demonstrated under the Clean Coal Technology Program.

The Government's right to revenues resulting from the supported work shall continue until it has recouped all of its expenditure for the project, or until 20 years have elapsed from the end of the project period, whichever comes first.

[This Section will contain the plan negotiated by the parties, which shall outline the schedule for recovering the Government's contribution. The plan also will require that the Participant submit to DOE an annual report documenting revenues received and provide payments of the Government's share on at least an annual basis.]

(E) Additional Funds

If at any time during the performance of this Cooperative Agreement the Participant has reason to believe that the total estimated project costs for any budget period are insufficient to cover the completion of all work to be performed under such period, the Participant shall provide the DOE Contracting Officer immediate written notice. Such written notice shall, as a minimum, set forth (1) a detailed explanation of the facts and rationale supporting such determination, (2) a proposed budget detailing the amount of additional funds needed to enable the completion of such period, and (3) the specific amount requested from DOE if DOE is being asked to cost-share in the additional funds.

Under no circumstance shall the Participant incur any additional costs to be cost-shared by DOE under this Cooperative Agreement without the prior written approval of the DOE Contracting Officer.

(F) DOE/Participant Share of Additional Funds

If the use of additional DOE funds are approved by DOE for any phase, and unless the agreement for additional funds provides for a lesser cost-share by the Government, the parties to this Cooperative Agreement shall share in any additional authorized costs in excess of those estimated as of the date of award in amounts proportional to their respective shares of total project costs under this Cooperative Agreement.

DOE shall under no circumstances provide additional funds in excess of twenty-five (25) percent (%) of its share of the total estimated project cost as shown on the initial award document in block 17 of the initial "Notice of Final Assistance Award."

(G) Total Estimated Project Cost

The DOE and the Participant shall share in the total estimated project costs of performance of this Cooperative Agreement under each Phase in accordance with their respective shares as defined below.

The Participant's respective share of total estimated project costs shall commence on the first day of authorized performance under any Phase and continue until Phase completion(s) or project termination, whichever occurs first.

(1) Phase I

The amount which DOE will expend for Phase I is:

	<u>Amount</u>
DOE Share	\$ _____

The amount which Participant will expend for Phase I is:

Participant Share (Cash)	\$ _____	
Participant Share (in-kind contributions)	\$ _____	
Total Participant Share	\$ _____	
Total Phase I contributions:		
DOE Share	\$ _____	_____ %
Participant Share	\$ _____	_____ %
Total	\$ _____	100%



(2) Phase II

The amount which DOE will expend for Phase II is:

	<u>Amount</u>
DOE Share	\$ _____

The amount which Participant will expend for Phase II is:

Participant Share (Cash)	\$ _____	
Participant Share (in-kind contributions)	\$ _____	
Total Participant Share	\$ _____	
Total Phase II contributions:		
DOE Share	\$ _____	_____ %
Participant Share	\$ _____	_____ %
Total	\$ _____	100%

(3) Phase III

The amount which DOE will expend for Phase III is:

	<u>Amount</u>
DOE Share	\$ _____

The amount which Participant will expend for Phase III is:

Participant Share (Cash)	\$ _____	
Participant Share (in-kind contributions)	\$ _____	
Total Participant Share	\$ _____	
Total Phase III contributions:		
DOE Share	\$ _____	_____ %
Participant Share	\$ _____	_____ %
Total	\$ _____	100%

(4) Total Estimated Project Cost

Total DOE share of

Estimated Project Costs \$ \_\_\_\_\_ %

Total Participant Share of

Estimated Project Costs \$ \_\_\_\_\_ %

Cash \$ \_\_\_\_\_

In-Kind \$ \_\_\_\_\_

This is the current estimated cost for the entire project. It is not a promise to authorize or an authorization to expend funds in this amount. Funding for and authorization to proceed with each phase is as provided in Articles II (C) and III (C)(2).

(H) Administration of Project Costs

The Participant shall estimate, allocate, accumulate, record and report project costs separately for each individual Phase of work authorized under this Cooperative Agreement.

ARTICLE IV - PAYMENT ARTICLE

Payment method will be determined at the time of award, consistent with the provisions of 10 CFR 600.112.

#### ARTICLE V - PROJECT INFORMATION SYSTEM

Reports shall be submitted in accordance with DOE Form 459A, Federal Assistant Reporting Checklist (Attachment C), and other reports as required by the Statement of Work (Attachment A).

#### ARTICLE VI - PROPERTY MANAGEMENT AND DISPOSITION

The Participant shall manage and dispose of all property acquired under the Cooperative Agreement in accordance with 10 CFR 600.117.

Title to any and all property (excluding Government furnished property) constructed, fabricated, installed, furnished, or procured by or on behalf of the Participant in connection with the performance of the work under this Cooperative Agreement shall be vested in the Participant and shall remain his property. However, any proceeds derived from the disposition of any property acquired under the Cooperative Agreement will be shared by the Government and the Participant in accordance with Article III (D).

## ARTICLE VII - TERMINATION AND WITHDRAWAL

### (A) Termination by Mutual Agreement

This Cooperative Agreement may be terminated in whole, or in part, by the mutual agreement of the parties. Mutual termination may occur at any time, but must be in writing and approved by the DOE Contracting Officer and an authorized representative of the Participant.

### (B) Termination for Default

The DOE may terminate this Cooperative Agreement for default in whole, or in part, if the Participant fails to comply with any of its terms and conditions. A default determination shall be subject to the Disputes and Appeals provisions of 10 CFR 600.26. The DOE Contracting Officer shall terminate by delivering to the Participant a written Notice of Termination.

### (C) Withdrawal

Either party may unilaterally withdraw from this project at the completion of any phase. Such withdrawal shall occur either by a decision of the Participant not to submit a continuation application or a decision by DOE not to approve such application. Such withdrawal shall be at no additional cost to either party beyond their respective individual project cost shares at the completion of that project phase.

ARTICLE VIII - KEY PERSONNEL

Pursuant to the clause entitled, "Key Personnel" in the General Provisions (Attachment B), the Participant's "Key Personnel" are as follows:

	<u>Name</u>	<u>Title</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

The clause entitled "Key Personnel" contains a requirement for notification to the DOE Contracting Officer reasonably in advance of diverting of, or substitution for, any of these individuals. That period of time shall not be less than thirty (30) days.

ARTICLE IX - PUBLIC INFORMATION RELEASE

The Participant shall coordinate in advance with the DOE Contracting Officer on all Public Information Releases to be issued by the Participant concerning work performed under this Cooperative Agreement. Such Public Information Releases shall not be issued without prior approval from the DOE Contracting Officer or the COTR.

ARTICLE X - DESIGNATION OF THE DOE CONTRACTING OFFICER'S REPRESENTATIVES

<u>Title</u>	<u>Name</u>	<u>Address</u>
Contract Specialist	_____	_____
Contracting Officer's Technical Representative	_____	_____
Patent Counsel	_____	_____

The inspection and acceptance of all reports and other deliverables to be provided under this Cooperative Agreement shall be accomplished by the DOE Contracting Officer or his duly designated Government representative.

ARTICLE XI - INSURANCE AND INDEMNITY

The Participant shall procure and thereafter maintain workmen's compensation, employer's liability, comprehensive general liability (bodily injury), and comprehensive automobile liability (bodily injury and property damage) insurance, and such other insurance coverage as approved by the Contracting Officer with respect to performance under this Cooperative Agreement.

Provided, That the Participant may with the approval of the DOE Contracting Officer maintain a self-insurance program: And provided further, That with respect to workmen's compensation the Participant is qualified pursuant to statutory authority. All insurance required pursuant to the provisions of this paragraph shall be in such form, in such amounts, and for such periods of time as the DOE Contracting Officer may approve, and with insurers approved by the DOE Contracting Officer.

(A) Hazards (Property Damage)

The participant will provide hazard insurance (fire, windstorm, water damage, etc.) covering the materials, equipment and structures acquired or constructed under this Cooperative Agreement. Any deductible amount under the policy will be the sole responsibility of the Participant. Proceeds from such insurance may be used to replace the damaged or destroyed property. If a decision is made not to replace or repair the property then the proceeds will be paid to DOE in the same ratio as the cost-share formula applicable to the phase of the Cooperative Agreement when the equipment or property was purchased. This insurance will be in the amount of the purchase price or fair market value, whichever is greater.

(B) Flood Insurance

If funds under this Cooperative Agreement are used for acquisition or construction purposes in an identified flood plain area in the United States having special flood hazards, the Participant agrees to purchase flood insurance and comply with the provisions prescribed by the Federal Insurance Administration in 24 CFR Chapter X, Subchapter B.

(C) Indemnity

The Participant shall indemnify the Government and its officers, agents or employees for any and all liability, including litigation expenses and reasonable attorneys' fees, arising from suits, actions or claims of any character for death, bodily injury, or loss of or damage to property or the

environment in connection with or resulting from the fault or negligence of the Participant or the Government, jointly or severally, in the implementation, operation, use, possession, handling, management, or disposition of the project under this Cooperative Agreement.

#### ARTICLE XII - BONDING FOR CONSTRUCTION

The Participant shall require any construction contractor or subcontractor to obtain performance and payment bonds for any construction project which exceeds \$100,000 under this Cooperative Agreement. Bonding terms and conditions will be the same as those imposed on construction contractors who perform U.S. Government construction contracts (Miller Act, 40 USC 270a-270f).

#### ARTICLE XIII - TECHNICAL AND ECONOMIC EVALUATION

Ninety (90) days after the beginning of the budget periods for Phases I and II, the Participant will submit to the DOE for DOE approval a Project Evaluation Plan. This Plan will identify and describe the criteria by which the technical and economic feasibility of the project are to be measured. The Project Evaluation Plan as reviewed, revised, and approved by DOE will be used by the Participant for the preparation of a Project Evaluation Report to be submitted to the DOE 60 days prior to the end of the budget period for which the Project Evaluation Plan was prepared. The approved Plan will be used by DOE as the basis for the DOE decision to continue the project to the subsequent phase.



ATTACHMENT A

STATEMENT OF WORK

(To be inserted at time of Award)

ATTACHMENT B

GENERAL PROVISIONS  
FOR  
COST SHARING COOPERATIVE AGREEMENT

ATTACHMENT B  
GENERAL PROVISIONS FOR COST SHARING COOPERATIVE AGREEMENT

	<u>Page No.</u>
1. ORDER OF PRECEDENCE 952.215-18 .....	3
2. DEFINITIONS 952.202-1 .....	3
3. INSPECTION 52.246-9 .....	3
4. ACCESS TO RECORDS 10 CFR 600.25 .....	3
5. CONVICT LABOR 52.222-3 .....	4
6. OFFICIALS NOT TO BENEFIT 52.203-1 .....	4
7. COVENANT AGAINST CONTINGENT FEES 52.203-5 .....	4
8. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT 41 CFR 9-9.104 .....	5
9. COMPETITION IN SUBCONTRACTING 52.244-5 .....	5
10. AUDIT - NEGOTIATION 52.215-2 .....	5
11. CLEAN AIR AND WATER 52.223-2 .....	6
12. PREFERENCE FOR U.S. FLAG AIR CARRIERS 52.247-63 .....	8
13. PREFERENCE FOR PRIVATELY OWNED U.S. FLAG COMMERCIAL VESSELS 52.247-64.....	9
14. NOT USED .....	10
15. REPORTING OF ROYALTIES 41 CFR 9-9.110.....	11
16. AUTHORIZATION AND CONSENT 41 CFR 9-9.102-2 .....	11
17. NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS 10 CFR PART 1040 .....	11
18. RIGHTS IN TECHNICAL DATA (LONG FORM) 952.227-75 .....	11
19. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT 52.222-4 .....	15
20. PATENT RIGHTS (LONG FORM) 41 CFR 9-9.107-5(a) .....	15
21. PATENT RIGHTS - SMALL BUSINESS FIRMS OR NONPROFIT ORGANIZATIONS 10 CFR 600.118(b)(1) .....	26
22. MANDATORY PURCHASE OF FLOOD INSURANCE .....	32

GENERAL PROVISIONS FOR COST SHARING COOPERATIVE AGREEMENT (Cont'd)

	<u>Page No.</u>
23. UTILIZATION OF LABOR SURPLUS AREA CONCERNS 52.220-3 .....	32
24. LABOR SURPLUS AREA SUBCONTRACTING PROGRAM 52.220-4 .....	33
25. DISPUTES 10 CFR 600.26 .....	33
26. SUBCONTRACTS UNDER COST-REIMBURSEMENT AND LETTER CONTRACTS 52.244-2 .....	35
27. GOVERNMENT PROPERTY 10 CFR 600.117 .....	38
28. PATENT INDEMNITY 41 CFR 9-9.103-3(b) .....	43
29. LIMITATION OF FUNDS 52.232-22 .....	43
30. ALLOWABLE COST AND PAYMENT 952.216-7 .....	45
31. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA 52.215-22 .	49
32. SUBCONTRACTOR COST OR PRICING DATA 52.215-24 .....	49
33. ADDITIONAL TECHNICAL DATA REQUIREMENTS 952.227-73 .....	50
34. UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS 52.219-8 .....	50
35. UTILIZATION OF WOMEN-OWNED SMALL BUSINESSES 52.219-13 .....	51
36. SMALL AND DISADVANTAGED SUBCONTRACTING PLAN 52.219-9.....	51
37. KEY PERSONNEL 952.235-70 .....	53
38. RECORD RETENTION REQUIREMENTS.....	54

Note to Participant: In these general provisions, the term "Contract or Grant" means Cooperative Agreement, and the term "Contractor or Grantee" means Participant, unless the content of the clause clearly indicates otherwise. The use of the term "subcontractor or subgrantee" in any of the provisions means contractor to the Participant and all tiers of Subcontractor thereunder unless the conditions for use of a provision as set forth in the FAR or DEAR provide otherwise.

1. ORDER OF PRECEDENCE 952.215-18

In the event of an inconsistency between provisions of this agreement, the inconsistency shall be resolved by giving precedence as follows: (a) the Schedule Articles; (b) the General Provisions; (c) the Statement of Work; (d) other provisions of the agreement, whether incorporated by reference or otherwise; (e) the DOE Assistance Rules as they may relate to this agreement.

2. DEFINITIONS 952.202-1

(a) The term "Head of Agency" means the Secretary, Deputy Secretary or Under Secretary of the Department of Energy.

(b) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(c) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(d) The term "DOE" means the Department of Energy.

3. INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM) 52.246-9

The Government has the right to inspect and evaluate the work performed or being performed under the contract, and the premises where the work is being performed, at all reasonable times and in a manner that will not unduly delay the work. If the Government performs inspection or evaluation on the premises of the Contractor or a subcontractor, the Contractor shall furnish and shall require subcontractors to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

4. ACCESS TO RECORDS 10 CFR 600.25

(a) Recipient records. DOE and the Comptroller General of the United States, or any of their authorized representatives, shall have the right of access to any books, documents, papers, or other records of a recipient that are directly pertinent to the DOE financial assistance award, in order to make audit, examination, excerpts and transcripts.

(b) Subrecipient records. DOE, the Comptroller General of the United States, and the recipient, or any of their authorized representatives, shall have the right of access to any books, documents, papers, or other records of a subrecipient which are directly pertinent to the financial assistance subaward, in order to make audit, examination, excerpts, and transcripts.

(c) Contractor and subcontractor records. With respect to any negotiated contract or subcontract in excess of \$10,000 under a grant or cooperative agreement, DOE, the Comptroller General of the United States, the recipient and (if the contract was awarded under a financial assistance subaward) the subrecipient, or any of their authorized representatives shall have the right of access to any books, documents, papers, or other records of the contractor or subcontractor which are directly pertinent to that contract or subcontract, in order to make audit, examination, excerpts, and transcripts.

(d) Duration of access right. The right of access may be exercised for as long as the applicable records are retained by the recipient, subrecipient, contractor, or subcontractor. (See the Record Retentions Clause contained in these General Provisions)

#### 5. CONVICT LABOR 52.222-3

The Contractor agrees not to employ any person undergoing sentence of imprisonment in performing this contract except as provided by 18 U.S.C. 4082(c)(2) and Executive Order 11755, December 29, 1973.

#### 6. OFFICIALS NOT TO BENEFIT 52.203-1

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit arising from it. However, this clause does not apply to this contract to the extent that this contract is made with a corporation for the corporation's general benefit.

#### 7. COVENANT AGAINST CONTINGENT FEES 52.203-5

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence", as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

**8. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT**  
**41 CFR 9-9.104**

The provisions of this clause shall be applicable only if the amount of this contract exceeds \$10,000.

(a) The contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the contractor shall furnish to the Government when requested by the Contracting Officer, all evidence and information in possession of the contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the contractor has agreed to indemnify the Government.

(c) This clause shall be included in all subcontracts.

**9. COMPETITION IN SUBCONTRACTING 52.244-5**

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the contract.

**10. AUDIT-NEGOTIATION 52.215-2**

(a) Examination of costs. If this is a cost-reimbursement, incentive, time and materials, labor-hours, or price-redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer or representatives of the Contracting Officer shall have the right to examine and audit-books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred in performing this contract.

This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

(b) Cost or pricing data. If, pursuant to law, the Contractor has been required to submit cost or pricing data in connection with pricing this contract or any modification to this contract, the Contracting Officer or representatives of the Contracting Officer who are employees of the Government shall have the right to examine and audit all books, records, documents, and or data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the contract or modification, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data. The right of examination shall extend to all documents necessary to perform adequate evaluation of the cost pricing data submitted, along with the computations and projection used.

(c) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or representatives of the Contracting Officer who are employees of the Government shall have the right to examine and audit books, records, other documents, and supporting materials, for the purpose of evaluating (1) the effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in paragraphs (a) and (b) above, for examination, audit, or reproduction, until 3 years after final payment under this contract, or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulations, or for any longer period required by statute or by other clauses of this contract. In addition-

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement; and

(2) Records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising, under or relating to this contract shall be made available until such appeals, litigation, or claims are disposed of.

(e) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (e), in all subcontracts over \$10,000 under this contract, altering the clause only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

#### 11. CLEAN AIR AND WATER 52.223-2

(a) "Air Act", as used in this clause, means the Clean Air Act (42 U.S.C. 7401 etc. seq.).

"Clear Air Standards," as used in this clause, means -



(1) Any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, work practices, or other requirements contained in, issued under, or otherwise adopted under the Air Act or Executive Order 11738;

(2) An applicable implementation plan as described in section 110(d) of the Air Act (42 U.S.C. 7410(d));

(3) An approved implementation procedure or plan under section 111(c) or section (d) of the Air Act (42 U.S.C. 7411(c) or (d)); or

(4) An approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 7412(d)).

"Clean water standards," as used in this clause, means any enforceable limitation, control, condition, prohibition, standard, or other requirement promulgated under the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

"Compliance," as used in this clause, means compliance with -

(1) Clean air or water standards; or

(2) A schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency, or an air or water pollution control agency under the requirements of the Air Act or Water Act and related regulations.

"Facility," as used in this clause, means any building, plant, installation, structure, mine, vessel or other floating craft, location, or site of operations, owned, leased, or supervised by a Contractor or subcontractor, used in the performance of a contract or subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the Administrator, or a designee, of the Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

"Water Act", as used in this clause, means Clean Water Act (33 U.S.C. 1251 etc. seq.).

(b) The Contractor agrees -

(1) To comply with all the requirements of section 114 of the Clean Air Act (42 U.S.C. 7414) and section 308 of the Clean Water Act (33 U.S.C. 1318) relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, and all regulations and guidelines issued to implement those acts before the award of this contract;

(2) That no portion of the work required by this prime contract will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this contract was awarded unless and until the EPA eliminates the name of the facility from the listing;

(3) To use best efforts to comply with clean air standards and clean water standards at the facility in which the contract is being performed; and

(4) To insert the substance of this clause into any nonexempt subcontract, including this subparagraph (b)(4).

12. PREFERENCE FOR U.S.- FLAG AIR CARRIERS 52.247-63

(a) "International air transportation," as used in this clause, means transportation by air between a place in the United States and a place outside the United States or between two places both of which are outside the United States.

"United States," as used in this clause, means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, and possessions of the United States.

"U.S.-flag air carrier," as used in this clause, means an air carrier holding a certificate under section 401 of the Federal Aviation Act of 1958 (49 U.S.C. 1371).

(b) Section 5 of the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 1517)(Fly America Act) requires that all Federal agencies and Government contractors and subcontractors use U.S.-flag air carriers for U.S. Government-financed international air transportation of personnel (and their personal effects) or property, to the extent that service by those carriers is available. It requires the Comptroller General of the United States, in the absence of satisfactory proof of the necessity for foreign-flag air transportation, to disallow expenditures from funds, appropriated or otherwise established for the account of the United States, for international air transportation secured aboard a foreign-flag air carrier if a U.S.-flag air carrier is available to provide such services.

(c) The Contractor agrees, in performing work under this contract, to use U.S.-flag air carriers for international air transportation of personnel (and their personal effects) or property to the extent that service by those carriers is available.

(d) In the event that the Contractor selects a carrier other than a U.S.-flag air carrier for international air transportation, the Contractor shall include a certification on vouchers involving such transportation essentially as follows:

## CERTIFICATION OF UNAVAILABILITY OF U.S.-FLAG AIR CARRIERS

I hereby certify that international air transportation of persons (and their personal effects) or property by U.S.-flag air carrier was not available or it was necessary to use foreign-flag air carrier service for the following reasons (see section 47.403 of the Federal Acquisition Regulation): [State reasons]:.....

### 13. PREFERENCE FOR PRIVATELY OWNED U.S.-FLAG COMMERCIAL VESSELS 52.247-64

(a) The Cargo Preference Act of 1954 (46 U.S.C. 1241(b)) requires that Federal departments and agencies shall transport in privately owned U.S.-flag commercial vessels at least 50 percent of the gross tonnage of equipment, materials, or commodities that may be transported in ocean vessels (computed separately for dry bulk carriers, dry cargo liners, and tankers). Such transportation shall be accomplished when any equipment, materials, or commodities, located within or outside the United States, that may be transported by ocean vessel are -

(1) Acquired for a U.S. Government agency account;

(2) Furnished to, or for the account of, any foreign nation without provision for reimbursement;

(3) Furnished for the account of a foreign nation in connection with which the United States advances funds or credits, or guarantees the convertibility of foreign currencies; or

(4) Acquired with advance of funds, loans, or guaranties made by or on behalf of the United States,

(b) The Contractor shall use privately owned U.S.-flag commercial vessels to ship at least 50 percent of the gross tonnage involved under this contract (computed separately for dry bulk carriers, dry cargo liners, and tankers) whenever shipping any equipment, materials, or commodities under the conditions set forth in paragraph (a) above, to the extent that such vessels are available at rates that are fair and reasonable for privately owned U.S.-flag commercial vessels.

(c)(1) The Contractor shall submit one legible copy of a rated on-board ocean bill of lading for each shipment to both (i) the Contracting Officer and (ii) the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590. Subcontractor bills of lading shall be submitted through the Prime Contractor.

(2) The Contractor shall furnish these bill of lading copies (i) within 20 working days of the date of loading for shipments originating in the United States or (ii) within 30 working days for shipments originating outside the United States. Each bill of lading copy shall contain the following information:

- (A) Sponsoring U.S. Government agency.
- (B) Name of vessel.
- (C) Vessel flag of registry.
- (D) Date of loading.
- (E) Port of loading.
- (F) Port of final discharge.
- (G) Description of commodity.
- (H) Gross weight in pounds and cubic feet if available.
- (I) Total ocean freight revenue in U.S. dollars.

(d) Except for small purchases as described in 48 CFR 13, the Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts or purchase orders under this contract.

(e) The requirement in paragraph (a) does not apply to -

(1) Small purchases as defined in 48 CFR 13;

(2) Cargoes carried in vessels of the Panama Canal Commission or as required or authorized by law or treaty;

(3) Ocean transportation between foreign countries of supplies purchased with foreign currencies made available, or derived from funds that are made available, under the Foreign Assistance Act of 1961 (22 U.S.C. 2353); and

(4) Shipments of classified supplies when the classification prohibits the use of non-Government vessels.

(f) Guidance regarding fair and reasonable rates for privately owned U.S.-flag commercial vessels may be obtained from the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, Phone: 202-426-4610.

14. NOT USED - REST OF PAGE LEFT BLANK

15. REPORTING OF ROYALTIES 41 CFR 9-9.110

If the contract is in an amount which exceeds \$10,000 and if any royalty payments are directly involved in the contract or are reflected in the contract price to the Government, the contractor agrees to report in writing to the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) during the performance of this contract and prior to its completion or final settlement, the amount of any royalties or other payments paid or to be paid by it directly to others in connection with the performance of this contract together with the names and addresses of licensors to whom such payments are made and either the patent numbers involved or such other information as will permit the identification of the patents or other basis on which the royalties are to be paid. The approval of DOE of any individual payments or royalties shall not stop the Government at any time from contesting the enforceability, validity or scope of, or title to, any patent under which a royalty or payments are made.

16. AUTHORIZATION AND CONSENT 41 CFR 9-9.102-2

The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this contract or any part hereto or any amendment hereto or any subcontract hereunder (including all lower-tier subcontracts).

17. NONDISCRIMINATION IN FEDERALLY ASSISTED DOE PROGRAMS - CIVIL RIGHTS  
10 CFR PART 1040

Recipients of DOE financial assistance awards which are provided under DOE Federal Assistance programs shall comply with Part 1040, Chapter X, Title 10 of the Code of Federal Regulations "Nondiscrimination in Federally Assisted Programs" (proposed rule) (10 CFR Part 1040) as published in the FR Vol. 43, No. 222, Thursday, November 16, 1978 (pages 53658 through 53676) and when published, as a final rule. 10 CFR Part 1040 provided that no person shall on the ground of race, color, national origin, sex, handicap, or age be excluded from participation in, be denied the benefits of, be subjected to discrimination under, or be denied employment, where the main purpose of the program or activity is to provide employment or when the delivery of program services is affected by the recipient's employment practices, in connection with any program or activity receiving Federal assistance from DOE.

18. RIGHTS IN TECHNICAL DATA-(LONG FORM) 952.227-75

(a) Definitions. (1) "Technical data" means recorded information regardless of form or characteristic, of a scientific or technical nature. It may, for example, document research, experimental, developmental, or demonstration, or engineering work, or be usable or used to define a design or process, or to procure, produce, support, maintain, or operate material. The data may be graphic or pictorial delineations in media such as drawings or photographs, text in specifications or related performance or design type documents or computer software (including computer programs, computer software data bases, and computer software documentation).

Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identification, and related information. Technical data as used herein do not include financial reports, cost analyses, and other information incidental to contract administration.

(2) "Proprietary data" means technical data which embody trade secrets developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes, or treatments, including minor modifications thereof, provided that such data:

- (i) Are not generally known or available from other sources without obligation concerning their confidentiality;
- (ii) Have not been made available by the owner to others without obligation concerning its confidentiality; and
- (iii) Are not already available to the Government without obligation concerning their confidentiality.

(3) "Contract data" means technical data first produced in the performance of the contract, technical data which are specified to be delivered under the contract technical data that may be called for under the Additional Technical Data Requirements clause of the contract, if any, or technical data actually delivered in connection with the contract.

(4) "Unlimited rights" means rights to use, duplicate, or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.

(b) Allocation of rights. (1) The Government shall have:

(i) Unlimited rights in contract data except as otherwise provided below with respect to proprietary data;

(ii) The right to remove, cancel, correct or ignore any marking not authorized by the terms of this contract on any technical data furnished hereunder, if in response to a written inquiry by DOE concerning the propriety of the markings, the Contractor fails to respond thereto within 60 days or fails to substantiate the propriety of the markings. In either case, DOE will notify the Contractor of the action taken;

(iii) No rights under this contract in any technical data which are not contract data.

(2) The Contractor shall have:

(i) The right to withhold proprietary data in accordance with the provisions of this clause; and

(ii) The right to use for its private purposes, subject to patent, security or other provisions of this contract data it first produces in the performance of this contract, provided the data requirements of this contract have been met as of the date of the private use of such data. The Contractor agrees that to the extent it receives or is given access to proprietary data or other technical, business or financial data in the form of recorded information from DOE or a DOE Contractor or subcontractor, the Contractor shall treat such data in accordance with any restrictive legend contained thereon, unless use is specifically authorized by prior written approval of the Contracting Officer.

(3) Nothing contained in this Rights of Technical Data clause shall imply a license to the Government under any patent or be construed as affecting the scope of any licenses or other rights otherwise granted to the Government under any Patent.

(c) Copyrighted material. (1) The Contractor shall not, without prior written authorization of the Patent Counsel, establish a claim to statutory copyright in any contract data first produced in the performance of the contract. To the extent such authorization is granted, the Government reserves for itself and others acting on its behalf a royalty-free, nonexclusive, irrevocable, worldwide license for Governmental purposes to publish, distribute, translate, duplicate exhibit and perform any such data copyrighted by the Contractor.

(2) The Contractor agrees not to include in the technical data delivered under the contract any material copyrighted by the Contractor and not to knowingly include any material copyrighted by others, without first granting or obtaining at no cost a license therein for the benefit of the Government of the same scope as set forth in paragraph (c)(1) above. If such royalty-free license is unavailable and the Contractor nevertheless determines that such copyrighted material must be included in the technical data to be delivered, rather than merely incorporated therein by reference, the Contractor shall obtain the written authorization of the Contracting Officer to include such copyrighted material in the technical data prior to its delivery.

(d) Subcontracting. It is the responsibility of the Contractor to obtain from its subcontractors technical data and rights therein, on behalf of the Government, necessary to fulfill the Contractor's obligations to the Government with respect to such data. In the event of refusal by a subcontractor to accept a clause affording the Government such rights, the Contractor shall:

(1) Promptly submit written notice to the Contracting Officer setting forth reasons for the subcontractor refusal and other pertinent information which may expedite disposition of the matter; and

(2) Not proceed with the subcontract without the written authorization of the Contracting Officer.

(e) Withholding of proprietary data. Notwithstanding the inclusion of the Additional Technical Data Requirements clause in this contract or any provision of this contract specifying the delivery of technical data, the Contractor may withhold proprietary data from delivery, provided that the Contractor furnishes in lieu of any such proprietary data so withheld technical data disclosing the source, size, configuration, mating and attachment characteristics, functional characteristics, and performance requirements ("Form, Fit and Function" data, e.g., specification control drawings, catalog sheets, envelop drawings, etc., or a general description of such proprietary data where "Form, Fit and Function" data are not applicable). The Government shall acquire no rights to any proprietary data so withheld except that such data shall be subject to the "inspection rights" provisions of paragraph (f), and, if included, the "Limited rights in proprietary data" provisions of paragraph (g) and the "Contractor licensing" provisions of paragraph (h).

(f) Inspection rights. Except as may be otherwise specified in this contract for specific items of proprietary data which are not subject to this paragraph, the Contracting Officer's representatives, at all reasonable times up to three years after final payment under this contract, may inspect at the Contractor's facility any proprietary data withheld under paragraph (e) for the purpose of verifying that such data properly fell within the withholding provisions of paragraph (e) and not furnished under paragraph (g) for the purposes of verifying that such data properly fell within the withholding provision of paragraph (e), or for evaluating work performance.

(g) Limited rights in proprietary data. Except as may be otherwise specified in this contract as technical data which are not subject to this paragraph, the contractor shall, upon written request from the Contracting Officer at any time prior to three years after final payment under this contract, promptly deliver to the Government any "proprietary data" withheld pursuant to paragraph (e) of the Rights in Technical Data clause of this contract. The following legend and no other is authorized to be affixed on any "proprietary data" delivered pursuant to this provision, provided the "proprietary data" meets the conditions for initial withholding under paragraph (e) of the Rights in Technical Data clause. The Government will thereafter treat the "proprietary data" in accordance with such legend.

(h) Contract licensing. Except as may be otherwise specified in this contract as technical data not subject to this paragraph, the contractor agrees that upon written application by DOE, it will grant to the Government and responsible third parties, for purpose of practicing a subject of this contract, a nonexclusive license in any contract data which are proprietary data, on terms and conditions reasonable under the circumstances including appropriate provisions for confidentiality; provided, however, the contractor shall not be obligated to license any such data if the contractor demonstrates to the satisfaction of the Head of the Agency or designee that:

(1) Such data are not essential to the manufacture or practice of hardware designed or fabricated, or processes developed, under this contract;

(2) Such data, in the form of results obtained by their use, have a commercially competitive alternative available or readily introducible from one or more other sources.

(3) Such data, in the form of results obtained by their use, are being supplied by the contractor or its licensees in sufficient quantity and at reasonable prices to satisfy market needs, or the contractor or its licensees have taken effective steps or within a reasonable time are expected to take effective steps to so supply such data in the form of results obtained by their use; or

(4) Such data, in the form of results obtained by their use, can be furnished by another firm skilled in the art of manufacturing items or performing processes of the same general type and character necessary to achieve the contract results.



19. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME  
COMPENSATION - GENERAL 52.222-4

This contract, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333)(the Act), is subject to the following terms and all other applicable provisions and exceptions of the Act and the regulations of the Secretary of Labor.

(a) Overtime requirements. A Contractor or subcontractor shall not require or permit any laborer or mechanic to work in excess of 8 hours in any calendar day, or 40 hours in any workweek, on any part of the contract work subject to the Act; unless, the laborer or mechanic receives compensation at a rate not less than 1 1/2 times the basic rate of pay for all hours worked in excess of 8 hours in any calendar day, or 40 hours in any workweek, whichever produces the greater amount of overtime.

(b) Violation, liability for unpaid wages, and liquidated damages. If the terms of paragraph (a) above are violated, the Contractor and any subcontractor responsible for the violation shall be liable to any affected employee for unpaid wages. In addition, the Contractor and subcontractor shall be liable to the United States for liquidated damages. These damages are computed for each individual laborer or mechanic at \$10 for each calendar day on which the employee was required or permitted to be employed in violation of paragraph (a) above.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer may withhold from the contractor, from any moneys payable on account of work performed by the Contractor or subcontractor, such amounts as may administratively be determined to be necessary to satisfy any liabilities of the Contractor or subcontractor for unpaid wages and liquidated damages as provided in paragraph (b) above.

(d) Subcontracts. The Contractor and subcontractor shall insert paragraphs (a) through (d) of this clause in all subcontracts.

(e) Records. The Contractor shall maintain payroll records containing the information specified in 29 CFR 516.2(a). These records shall be preserved for 3 years from contract completion. The contractor will make the records available for inspection by authorized representatives of the ..... [Contracting Officer insert the name of agency] and the Department of Labor, and will permit such representatives to interview employees during working hours on the job.

20. PATENT RIGHTS (LONG FORM) 41 CFR 9-9.107-5(a)

(a) Definitions.

(1) "Subject invention" means any invention or discovery of the contractor conceived or first actually reduced to practice in the course of or under this contract, and includes any art, method, process, machine manufacture, design or composition of matter, or any new and useful improvement thereof or any variety of plants, whether patented or unpatented under the Patent Laws of the United States of America or any foreign country.

(2) "Contract" means any contract, grant, agreement, understanding, or other arrangement, which includes research, development, or demonstration work, and includes any assignment or substitution of parties.

(3) "States and domestic municipal governments" means the States of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, and any political subdivision and agencies thereof.

(4) "Government agency" includes an executive department, independent commission; board, office, agency, administration, authority, government corporation, or other Government establishment of the Executive Branch of the Government of the United States of America.

(5) "To the point of practical application" means to manufacture, in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(6) "Patent Counsel" means the Department of Energy Patent Counsel assisting the procuring activity.

(b) Allocation of principal rights.

(1) Assignment to the Government.

The contractor agrees or assign to the Government the entire right, title, and interest throughout the world in and to each subject invention, except to the extent that rights are retained by the contractor under paragraph (b)(2) and (c) of this clause.

(2) Greater rights determinations.

The contractor or the employee-inventor with authorization of the contractor may request greater rights than the nonexclusive license and the foreign patent rights provided in paragraph (c) of this clause on identified inventions in accordance with 41 CFR Section 9-9.109-6(d). Such requests must be submitted to patent Counsel (with notification by Patent Counsel to the Contracting Officer) at the time of the first disclosure pursuant to paragraph (e)(2) of this clause, or not later than 9 months after conception or first actual reduction to practice, whichever occurs first, or such longer periods as may be authorized by Patent Counsel (with notification by Patent Counsel to the Contracting Officer) for good cause shown in writing by the contractor.

(c) Minimum rights to the contractor.

(1) Contractor license.

The contractor reserves a revocable, nonexclusive, paid-up license in each patent application filed in any country on a subject invention and any resulting patent in which the Government acquires title. The license shall extend to the contractor's domestic subsidiaries and affiliates, if any, within the corporate structure of which the contractor is a part and shall include the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time the contract was awarded. The license shall be transferable only with approval of DOE except when transferred to the successor of that part of the contractor's business to which the invention pertains.

(2) Revocation limitations.

The contractor's nonexclusive license retained pursuant to paragraph (c)(1) of this clause and sublicenses granted thereunder may be revoked or modified by DOE, either in whole or in part, only to the extent necessary to achieve expeditious practical application of the subject invention under DOE's publish licensing regulations (10 CFR 781), and only to the extent an exclusive license is actually granted. This license shall not be revoked in that field of use and/or the geographical areas in which the contractor, or its sublicensee, has brought the invention to the point of practical application and continues to make the benefits of the invention reasonably accessible to the public, or is expected to do so within a reasonable time.

(3) Revocation procedures.

Before modification or revocation of the license or sublicense, pursuant to paragraph (c)(2) of this clause, DOE shall furnish the contractor a written notice of its intention to modify or revoke the license and any sublicense thereunder, and the contractor shall be allowed 30 days, or such longer periods as may be authorized by the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) for good cause shown in writing by the contractor, after such notice to show cause why the license or any sublicense should not be modified or revoked. The contractor shall have the right to appeal, in accordance with 10 CFR 781, any decision concerning the modification or revocation of his license or any sublicense.

(4) Foreign patent rights.

Upon written request to Patent Counsel (with notification by Patent Counsel to the Contracting Officer), and subject to DOE security regulations and requirements there shall be reserved to the contractor, or the employee inventor with authorization of the contractor, the patent rights to a subject invention in any foreign country where the Government has elected not to secure such rights provided:

(i) The recipient of such rights, when specifically requested by DOE and three years after issuance of a foreign patent disclosing said subject invention, shall furnish DOE a report setting forth:

(A) The commercial use that is being made, or is intended to be made, of said invention, and

(B) The steps taken to bring the invention to the point of practical application or to make the invention available for licensing.

(ii) The Government shall retain at least an irrevocable, nonexclusive, paid-up license to make, use, and sell the invention throughout the world by or on behalf of the Government (including any Government agency) and States and domestic municipal governments, unless the Head of the Agency or designee determines that it would not be in the public interest to acquire the license for the States and domestic municipal governments.

(iii) Subject to the rights granted in (c)(1), (2) and (3) of this clause, the Head of the Agency or designee shall have the right to terminate the foreign patent rights granted in this paragraph (c)(4) in whole or in part unless the recipient of such rights demonstrates to the satisfaction of the Head of the Agency or designee that effective steps necessary to accomplish substantial utilization of the invention have been taken or within a reasonable time will be taken.

(iv) Subject to the rights granted in (c)(1), (2) and (3) of this clause, the Head of the Agency or designee shall have the right, commencing four years after foreign patent rights are accorded under this paragraph (c)(4), to require the granting of a nonexclusive or partially exclusive license to a responsible applicant or applicants, upon terms reasonable under the circumstances, and in appropriate circumstances to terminate said foreign patent rights in whole or in part, following a hearing upon notice thereof to the public, upon a petition by an interested person justifying such hearing:

(A) If the Head of the Agency or designee determines, upon review of such material as he deems relevant, and after the recipient of such rights or other interested person has had the opportunity to provide such relevant and material information as the Head of the Agency or designee may require, that such foreign patent rights have tended substantially to lessen competition or to result in undue market concentration in any section of the United States in any line of commerce to which the technology relates; or

(B) Unless the recipient of such rights demonstrates to the satisfaction of the Head of the Agency or designee at such hearing that the recipient has taken effective steps, or within a reasonable time thereafter is expected to take such steps, necessary to accomplish substantial utilization of the invention.

(d) Filing of patent applications.

(1) With respect to each subject invention in which the contractor or the inventor requests foreign patent rights in accordance with paragraph (c)(4) of this clause, a request may also be made for the right to file and prosecute the U.S. application on behalf of the U.S. Government. If such request is granted, the contractor or inventor shall file a domestic patent application on the invention within 6 months after the request for foreign patent rights is granted, or such longer period of time as may be approved by the Patent Counsel for good cause shown in writing by the requestor. With respect to the invention, the requestor shall promptly notify the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) of any decision not to file an application.

(2) For each subject invention on which a domestic patent application is filed by the contractor or inventor, the contractor or inventor shall:

(i) Within 2 months after the filing of a patent application or within 2 months after submission of the invention disclosure, if the patent application has been filed previously, deliver to the Patent Counsel a copy of the application as filed including the filing date and serial number;

(ii) Within 6 months after filing the application or within 6 months after submitting the invention disclosure if the application has been filed previously, deliver to the Patent Counsel a duly executed and approved assignment to the Government, on a form specified by the Government;

(iii) Provide the Patent Counsel with the original patent grant promptly after a patent is issued on the application; and

(iv) Not less than 30 days before the expiration of the response period for any action required by the Patent and Trademark Office, notify the Patent Counsel of any decision not to continue prosecution of the application.

(3) With respect to each subject invention in which the contractor or inventor has requested foreign patent rights, the contractor or inventor shall file a patent application on the invention in each foreign country in which such request is granted, in accordance with applicable statutes and regulations, and within one of the following periods:

(i) Eight months from the date of filing a corresponding United States application, or if such an application is not filed, six months from the date the request was granted.

(ii) Six months from the date a license is granted by the Commissioner of Patents and Trademarks to file the foreign patent application, where such filing has been prohibited by security reasons; or

(iii) Such longer periods as may be approved by the Patent Counsel for good cause shown in writing by the contractor or inventor.

(4) Subject to the license specified in paragraph (c)(1), (2) and (3) of this clause, the contractor or inventor agrees to convey to the Government, upon request, the entire right, title, and interest in any foreign country in which the contractor or inventor fails to have a patent application filed in accordance with paragraph (d)(3) of this clause, or decides not to continue prosecution or to pay any maintenance fees covering the invention. To avoid forfeiture of the patent application or patent, the contractor or inventor shall, not less than 60 days before the expiration period for any action required by any patent office, notify the Patent Counsel of such failure or decision, and deliver to the Patent Counsel, the executed instruments necessary for the conveyance specified in this paragraph.

(e) Invention identification, disclosures, and reports.

(1) The contractor shall establish and maintain active and effective procedures to ensure that subject inventions are promptly identified and timely disclosed. These procedures shall include the maintenance of laboratory notebooks or equivalent records and other records that are reasonably necessary to document the conception and/or the first actual reduction to practice of subject inventions, and records which show that the procedures for identifying and disclosing the inventions are followed. Upon request, the contractor shall furnish the Contracting Officer a description of these procedures so that he may evaluate and determine their effectiveness.

(2) The contractor shall furnish the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) on a DOE-approved form:

(i) A written report containing full and complete technical information concerning each subject invention with 6 months after conception or first actual reduction to practice, whichever occurs first in the course of or under this contract, but in any event, prior to any sale, public use, or public disclosure of such invention known to the contractor. The report shall identify the contract and inventor and shall be sufficiently complete in technical detail and appropriately illustrated by sketch or diagram to convey to one skilled in the art of which the inventions pertains, a clear understanding of the nature, purpose, operation, and to the extent known, the physical, chemical, biological, or electrical characteristics of the invention. The report should also include any request for foreign patent rights under paragraph (c)(4) of this clause and any request to file a domestic patent application under (d)(1) of this clause. However, such request shall be made within the period set forth in paragraph (b)(2) of this clause. When an invention is reported under this paragraph (e)(2)(i), it shall be presumed to have been conceived or first actually reduced to practice in the course of or under the contract, unless the contractor contends it was not so made, in accordance with paragraph (g)(2)(ii) or this clause.

(ii) Upon request, but not more than annually, interim reports on a DOE-approved form listing subject inventions and subcontracts award(s) containing a Patent Rights clause for that period and certifying that:

(A) The contractor's procedures for identifying and disclosing subject inventions as required by this paragraph (e) have been followed throughout the reporting period;

(B) All subject inventions have been disclosed or that there are no such inventions; and

(C) All subcontracts containing a Patent Rights clause have been reported or that no such subcontracts have been awarded;

(iii) A final report on a DOE-approved form within three months after completion of the contract work listing all subject inventions and all subcontracts awarded containing a Patent Rights clause and certifying that:

(A) All subject inventions have been disclosed or that there were no such inventions; and

(B) All subcontracts containing a Patent Rights clause have been reported or that no such subcontracts have been awarded.

(3) The contractor shall obtain patent agreements to effectuate the provisions of this clause from all persons in its employ who perform any part of the work under this contract except nontechnical personnel, such as clerical employees and manual laborers.

(4) The contractor agrees that the Government may duplicate and disclose subject invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause. If the contractor is to file a foreign patent application on a subject invention, the Government agrees, upon written request, to use its best efforts to withhold publication of such invention disclosures until the expiration of the time period specified in paragraph (d)(1) of this clause, but in no event shall the Government or its employees be liable for any publication thereof.

(f) Publication.

It is recognized that during the course of the work under this contract, the contractor or its employees may from time to time desire to release or publish information regarding scientific or technical developments conceived or first actually reduced to practice in the course of or under this contract. In order that public disclosure of such information will not adversely affect the patent interests of DOE or the contractor, patent approval for release or publication shall be secured from Patent Counsel prior to any such release or publication.

(g) Forfeiture of rights in unreported subject inventions.

(1) The contractor shall forfeit to the Government, at the request of the Head of the Agency or designee, all rights in any subject invention which the contractor fails to report to Patent Counsel (with notification by Patent Counsel to the Contracting Officer) within 6 months after the time the contractor:

(i) Files or causes to be filed a United States or foreign patent application thereon; or

(ii) Submits the final report required by paragraph (e)(2)(iii) of this clause, whichever is later.

(2) However, the contractor shall not forfeit rights in a subject invention if, within the time specified, in (1)(i) or (1)(ii) of this paragraph (g), the contractor:

(i) prepares a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the contract and delivers the same to patent Counsel (with notification by Patent Counsel to the Contracting Officer); or

(ii) contending that the invention is not a subject invention, the contractor nevertheless discloses the invention and all facts pertinent to this contention to the Patent Counsel (with notification by Patent Counsel to the Contracting Officer); or

(iii) establishes that the failure to disclose did not result from the contractor's fault or negligence.

(3) Pending written assignment of the patent application and patents on a subject invention determined by the Head of the Agency or designee to be forfeited (such determination to be a final decision under the Disputes clause of this contract), the contractor shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph (g) shall be in addition to and shall not supersede other rights and remedies which the Government may have with respect to subject inventions.

(h) Examination of records relating to inventions.

(1) The Contracting Officer or his authorized representative, until the expiration of 3 years after final payment under this contract, shall have the right to examine any books (including laboratory notebooks), records, documents, and other supporting data of the contractor which the contracting Officer or his authorized representative reasonably deem pertinent to the discovery or identification of subject inventions or to determine compliance with the requirements of this clause.

(2) The Contracting Officer or authorized representative shall have the right to examine all books (including laboratory notebooks), records, documents of the contractor relating to the conception or first actual reduction to practice of inventions in the same field of technology as the work under this contract to determine whether any such inventions are subject inventions, if the contractor refuses or fails to:

(i) Establish the procedures of paragraph (e)(1) of this clause; or  
(ii) maintain and follow such procedures; or



(iii) correct or eliminate any material deficiency in the procedures within thirty days after the Contracting Officer notifies the contractor of such a deficiency.

(i) Withholding of payment (not applicable to subcontracts).

(1) Any time before final payment of the amount of this contract, the Contracting Officer may, if he deems such action warranted, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of this contract, whichever is less, shall have been set aside if in his opinion the contractor fails to:

(i) establish, maintain and follow effective procedures for identifying and disclosing subject inventions pursuant to paragraph (e)(1) of this clause; or

(ii) disclose any subject invention pursuant to paragraph (e)(2)(i) of this clause; or

(iii) deliver the interim reports pursuant to paragraph (e)(2)(ii) of this clause; or

(iv) provide the information regarding subcontracts pursuant to paragraph (j)(5) of this clause; or

(v) convey to the Government, using a DOE-approved form, the title and/or rights of the Government in each subject inventions as required by this clause.

(2) The reserve or balance shall be withheld until the Contracting Officer has determined that the contractor has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(3) Final payment under this contract shall not be made by the Contracting Officer before the contractor delivers to Patent Counsel all disclosures of subject inventions and other information required by (e)(2)(i) of this clause, the final report required by (e)(2)(iii) of this clause, and Patent Counsel has issued a patent clearance certification to the Contracting Officer.

(4) The Contracting Officer may, in his discretion, decrease or increase the sums withheld up to the maximum authorized above. If the contractor is a non-profit organization, the maximum amount that may be withheld under this paragraph shall not exceed \$50,000 or 1 percent of the amount of this contract, whichever is less. No amount shall be withheld under this paragraph while the amount specified by this paragraph is being withheld under other provisions of the contract. The withholding of any amount or subsequent payment thereof shall not be construed as a waiver of any rights accruing to the Government under this contract.

(j) Subcontracts.

(1) For the purpose of this paragraph the term "contractor" means the party awarding a subcontract and the term "subcontractor" means the party being awarded a subcontract, regardless of tier.

(2) The contractor will include the clause at 10 C.F.R. 600-118(b)(1) "Patent Rights - Small Business Firms or Nonprofit Organizations" suitably modified to identify the parties in all subcontracts regardless of tier, for experimental, developmental, demonstration, or research work to be performed by a small business firm or domestic nonprofit organization. In all other subcontracts, regardless of tier, for experimental, developmental, demonstration, or research work, unless otherwise authorized or directed by the Contracting Officer, the contractor will include the Patent Rights clause of 41 C.F.R. 9-9.107-5(a) or 41 C.F.R. 9-9.107-6, as appropriate, modified to identify the parties.

(3) Except as may be otherwise provided in this clause, the contractor shall not, in any subcontract by using a subcontract as consideration therefor, acquire any rights in its subcontractor's subject invention for the contractor's own use (as distinguished from such rights as may be required solely to fulfill the contractor's contract obligations to the Government in the performance of this contract).

(4) All invention disclosures, reports, instruments, and other information required to be furnished by the subcontractor to DOE, under the provisions of a Patent Rights clause in any subcontract hereunder may, in the discretion of the Contracting Officer, be furnished to the contractor for transmission to DOE.

(5) The contractor shall promptly notify the Contracting Officer in writing upon the award of any subcontract containing a Patent Rights clause by identifying the subcontractor, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon the request of the Contracting Officer, the contractor shall furnish a copy of the subcontract.

(6) The contractor shall identify all subject inventions of the subcontractor of which it acquires knowledge in the performance of this contract and shall notify the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) promptly upon the identification of the inventions.

(7) It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in subject inventions, and the contractor hereby assigns to the Government all rights that the contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to subject inventions. The contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government regarding subject inventions.

(k) Background Patents.

(1) "Background Patent" means a domestic patent covering an invention or discovery which is not a subject invention and which is owned or controlled by the contractor at any time through the completion of this contract:

(i) Which the contractor, but not the Government, has the right to license to others without obligation to pay royalties thereon, and

(ii) Infringement of which cannot reasonably be avoided upon the practice of any specific process, method, machine, manufacture or composition of matter (including relatively minor modifications thereof) which is a subject of the research, development, or demonstration work performed under this contract.

(2) The contractor agrees to and does hereby grant to the Government a royalty-free, nonexclusive, license under any background patent for purposes of practicing a subject of this contract by or for the Government in research, development, and demonstration work only.

(3) The contractor also agrees that upon written application by DOE, it will grant to responsible parties for purposes of practicing a subject of this contract, nonexclusive licenses under any background patent on terms that are reasonable under the circumstances. If, however, the contractor believes that exclusive or partially exclusive rights are necessary to achieve expeditious commercial development or utilization, then a request may be made to DOE for DOE approval of such licensing by the contractor.

(4) Notwithstanding the foregoing paragraph (k)(3), the contractor shall not be obligated to license any background patent if the contractor demonstrates to the satisfaction of the Head of the Agency or designee that:

(i) a competitive alternative to the subject matter covered by said background patent is commercially available or readily introducible from one or more other sources; or

(ii) the contractor or its licensees are supplying the subject matter covered by said background patent in sufficient quantity and at reasonable prices to satisfy market needs, or have taken effective steps or within a reasonable time are expected to take effective steps to so supply the subject matter.

(1) Atomic energy.

(1) No claim for pecuniary award or compensation under the provisions of the Atomic Energy Act of 1954, as amended, shall be asserted by the contractor or its employees with respect to any invention or discovery made or conceived in the course of or under this contract.

(2) Except as otherwise authorized in writing by the Contracting Officer, the contractor will obtain patent agreements to effectuate the provisions of paragraph (1)(1) of this clause from all persons who perform any part of the work under this contract, except nontechnical personnel, such as clerical employees and manual laborers.

(m) Limitation of rights.

Nothing contained in this patent rights clause shall be deemed to give the Government any rights with respect to any invention other than a subject invention except as set forth in the Patent Rights clause of this contract with respect to background patents and, if included, the facilities licensee.

21. PATENT RIGHTS - SMALL BUSINESS FIRMS OR NONPROFIT ORGANIZATIONS  
10 CFR 600.118(b)(1)

(a) Definitions.

(1) "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code (U.S.C.).

(2) "Subject Invention" means any invention of the contractor conceived or first actually reduced to practice in the performance of work under this contract.

(3) "Practical Application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

(4) "Made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) "Small Business Firm" means a small business concern as defined at Section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standard for small business concerns involved in Government procurement, contained in 13 CFR 121.3-8, and in subcontracting, contained in 13 CFR 121.3-12, will be used.

(6) "Nonprofit Organization" means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

(7) "Patent Counsel" means the Department of Energy (DOE) patent counsel assisting the DOE contracting activity.

(b) Allocation of principal rights. The contractor may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the contractor retains title, the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(c) Invention disclosure, election of title and filing of patent applications by contractor.

(1) The contractor will disclose each subject invention to the Patent Counsel within two months after the inventor discloses it in writing to contractor personnel responsible for the administration of patent matters. The disclosure to the Patent Counsel shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete technical detail to convey a clear understanding, to the extent known at the time of the disclosure of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Patent Counsel, the contractor will promptly notify the Patent Counsel of the acceptance of any manuscript describing the invention or of any on sale or public use planned by the contractor.

(2) The contractor will elect in writing whether or not to retain title to any such invention by notifying the Patent Counsel within twelve months of disclosure to the contractor; provided that in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title terminates sixty days prior to the end of the statutory period.

(3) The contractor will file its initial patent application on an elected invention within two years after election or, it earlier, prior in the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, or sale, or public use. The contractor will file patent applications in additional countries within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure to the Patent Counsel, election, and filing, may, at the discretion of the Patent Counsel be granted.

(d) Conditions when the Government may obtain title.

(1) The contractor will convey the DOE, upon written request, title to any subject invention:

(i) If the contractor fails to disclose or elect the subject invention within the times specified in (c) above, or elects not to retain title.

(ii) In those countries in which the contractor fails to file patent applications within the times specified in (c) above; provided, however, that if the contractor has filed a patent application in a country after the times specified in (c) above but prior to its receipt of the written request of the Patent Counsel, the contractor shall continue to retain title in that country; or

(iii) In any country in which the contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in a reexamination or opposition proceeding on, a patent on a subject invention.

(e) Minimum rights to contractor.

(1) The contractor will retain a nonexclusive, royalty-free license throughout the world in each subject invention to which the Government obtains title except if the contractor fails to disclose the subject invention within the times specified in (c) above. The contractor's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the contractor is a part and includes the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of DOE except when transferred to the successor of that part of the contractor's business to which the invention pertains.

(2) The contractor's domestic license may be revoked or modified by DOE to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with 10 CFR Part 781 and 41 CFR 101-4. This license will not be revoked in that field of use or the geographical areas in which the contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of DOE to the extent the contractor, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, DOE will furnish the contractor a written notice of its intention to revoke or modify the license, and the contractor will be allowed thirty days (or such other time as may be authorized by DOE for good cause shown by the contractor) after the notice to show cause why the license should not be revoked or modified. The contractor has the right to appeal, in accordance with 10 CFR Part 781, any decision concerning the revocation or modification of its license.

(f) Contractor action to protect Government's interest.

(1) The contractor agrees to execute or to have executed and promptly deliver to the Patent Counsel all instruments necessary to:

(i) Establish or confirm the rights the Government has throughout the world in those subject inventions for which the contractor retains title, and

(ii) Convey title to DOE when requested under (d) above and to enable the Government to obtain patent protection throughout the world in that subject invention.

(2) The contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the contractor each subject invention made under this contract in order that the contractor can comply with the disclosure provisions of (c) above and to execute all papers necessary to file patent applications on subject inventions. The disclosure format should require, as a minimum, the information requested by (c)(1) above. The contractor shall instruct such employees through the employee agreements or suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to United States or foreign statutory bars.

(3) The contractor will notify the Patent Counsel of any decision not to continue prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

(4) The contractor agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by the Department of Energy. The Government has certain rights in this invention."

(5) The contractor agrees to:

(i) Provide a report prior to the close-out of the contract listing all subject inventions;

(ii) Provide notification of all subcontracts under this contract for experimental, developmental, demonstration, or research work, the identity of the patent rights clause therein, and copy of each subcontract upon request;

(iii) Provide promptly a copy of the patent application, filing date, serial number, patent number and issue date for any subject invention in any country in which the contractor has applied for a patent.

(g) Subcontracts.

(1) The contractor will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or a domestic nonprofit organization. The subcontractor will retain all rights provided for the contractor in this clause, and the contractor will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The contractor will include in all other subcontracts, regardless of tier, for experimental, development, demonstration, or research work the patent rights clause of 41 CFR 9-9.107-5(a) or 9-9.107-6 as appropriate, modified to identify the parties.

(3) In the case of a subcontract at any tier, DOE, the subcontractor, and the contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and DOE with respect to those matters covered by this clause.

(h) Reporting on utilization of subject inventions. The contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and such other data and information as DOE may reasonably specify. The contractor also agrees to provide additional reports as may be requested by DOE in connection with any march-in proceeding undertaken by DOE in accordance with paragraph (j) of this clause. To the extent data or information supplied under this section is considered by the contractor, its licensee or assignee to be privileged and confidential and is so marked, DOE agrees that, to the extent permitted by 35 U.S.C. 202(c)(5), it will not disclose such information to persons outside the Government.

(i) Preference for United States industry. Notwithstanding any other provision of this clause, the contractor agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by DOE upon a showing by the contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.



(j) March-in-rights. The contractor agrees that with respect to any subject invention in which it has acquired title, DOE has the right in accordance with the procedures in OMB Circular A-124 to require the contractor, as assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such a request, DOE has the right to grant such a license itself if DOE determines that:

(1) Such action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

(4) Such action is necessary because the agreement required by (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Special provisions for contracts with nonprofit organizations.

If the contractor is a non profit organization it agrees that:

(1) Rights to a subject invention in the United States may not be assigned without the approval of DOE, except where such assignment is made to an organization which has as one of its primary functions the management of inventions and which is not, itself, engaged in or does not hold a substantial interest in other organizations engaged in the manufacture or sale of products or the use of processes that might utilize the invention or be in competition with embodiments of the invention (provided that such assignee will be subject to the same provisions as the contractors);

(2) The contractor may not grant exclusive licenses under United States patents or patent applications in subject inventions to persons other than small business firms for a period in excess of the earlier of:

(i) Five years from first commercial sale or use of the invention; or

(ii) Eight years from the date of the exclusive license excepting that time before regulatory agencies necessary to obtain premarket clearance, unless on a case-by-case basis, DOE approves a longer exclusive license. If exclusive field of use licenses are granted, commercial sale or use in one field of use will not be deemed commercial sales or use as to with respect to a product of the invention will be deemed to end the exclusive period to different subsequent products covered by the invention;

(3) The contractor will share royalties collected on a subject invention with the inventor; and

(4) The balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education.

(1) Communications. The DOE central point of contact for communications or matters relating to this clause is the Patent Counsel.

## **22. MANDATORY PURCHASE OF FLOOD INSURANCE**

If funds under this agreement are used for acquisition or construction purposes in an identified flood plain area in the United States having special flood hazards, the Participant agrees to purchase flood insurance and comply with the provisions prescribed by the Federal Insurance Administration in 24 CFR Chapter X, Subchapter B.

## **23. UTILIZATION OF LABOR SURPLUS AREA CONCERNS 52.220-3**

(a) Applicability. This clause is applicable if this contract exceeds the appropriate small purchase limitation in Part 13 of the Federal Acquisition Regulation.

(b) Policy. It is the policy of the Government to award contracts to concerns that agree to perform substantially in labor surplus area (LSA's) when this can be done consistent with the efficient performance of the contract and at prices no higher than are obtainable elsewhere. The Contractor agrees to use its best efforts to place subcontracts in accordance with this policy.

(c) Order of preference. In complying with paragraph (b) above and with paragraph (c) of the clause of this contract entitled Utilization of Small Business Concerns, the Contractor shall observe the following order of preference in awarding subcontracts: (1) small business concerns that are LSA concerns, (2) other small business concerns, and (3) other LSA concerns.

(d) Definitions. "Labor surplus area," as used in this clause, means a geographical area identified by the Department of Labor in accordance with 20 CFR 654, Subpart A, as an area of concentrated unemployment or underemployment or an area of labor surplus.

"Labor surplus area concern," as used in this clause, means a concern that together with its first-tier subcontractors will perform substantially in labor surplus areas. Performance is substantially in labor surplus areas if the costs incurred under the contract on account of manufacturing, production, or performance of appropriate services in labor surplus areas exceed 50 percent of the contract price.

24. LABOR SURPLUS AREA SUBCONTRACTING PROGRAM 52.220-4

(a) See the Utilization of Labor Surplus Area Concerns clause of this contract for applicable definitions.

(b) The Contractor agrees to establish and conduct a program to encourage labor surplus area (LSA) concerns to compete for subcontracts within their capabilities when the subcontracts are consistent with the efficient performance of the contract at prices no higher than obtainable elsewhere. The Contractor shall-

(1) Designate a liaison officer who will (i) maintain liaison with authorized representatives of the Government on LSA matters, (ii) supervise compliance with the Utilization of Labor Surplus Area Concerns clause, and (iii) administer the Contractor's labor surplus area subcontracting program;

(2) Provide adequate and timely consideration of the potentialities of LSA concerns in all make-or-buy decisions;

(3) Ensure that LSA concerns have an equitable opportunity to compete for subcontracts, particularly by arranging solicitations, time for the preparation of offers, quantities, specifications, and delivery schedules so as to facilitate the participation of LSA concerns;

(4) Include the Utilization of Labor Surplus Area Concerns clause in subcontracts that offer substantial LSA subcontracting opportunities; and

(5) Maintain records showing (i) the procedures adopted and (ii) the Contractor's performance, to comply with this clause. The records will be kept available for review by the Government until the expiration of 1 year after the award of this contract, or for such longer period as may be required by any other clause of this contract or by applicable law or regulations.

(c) The Contractor further agrees to insert in any related subcontract that may exceed \$500,000 and that contains the Utilization of Labor Surplus Area Concerns clause, terms that conform substantially to the language of this clause, including this paragraph (c), and to notify the Contracting Officer of the names of subcontractors.

25. DISPUTES 10 CFR 600.26

(a) Final determination. Whenever practicable, DOE shall attempt to resolve informally any dispute over the award or administration of financial assistance. At the initiative of DOE or upon the written request of an applicant for a continuation award or of a recipient, DOE shall mail (by certified mail) a brief written determination signed by a Contracting Officer, setting forth DOE's final disposition of any dispute which is not resolved informally. Such determination shall contain the following information:

(1) A summary of the dispute, including a statement of the issues and of the positions taken by the Department and the party or parties to the dispute; and

(2) The factual, legal and the policy reasons for DOE's disposition of the dispute.

(b) Right of appeal. Except as provided in paragraph (d)(1) of this section, the final determination under paragraph (a) of this section may be appealed to the Financial Assistance Appeals Board (the Board) in accordance with the procedures set forth in 10 CFR Part 1024. If the final determination under paragraph (a) of this section involves a dispute over which the Board has jurisdiction as provided in paragraph (d)(2) of this section, the Contracting Officer's determination shall state that, with respect to such dispute, the determination shall be the final decision of the Department unless, within 60 days, a written notice of appeal is filed. If the final determination under paragraph (a) of this section involves a dispute over which the Board has no jurisdiction as provided in paragraph (d)(1) of this section, the Contracting Officer's determination shall state that, effective immediately or on a later date specified therein, the determination shall, with respect to such dispute, be the final decision of the Department.

(c) Effect of appeal. The filing of an appeal with the Board shall not stay any determination or action taken by DOE which is the subject of the appeal. Consistent with its obligation to protect the interests of the Federal Government, DOE may take such authorized actions as may be necessary to preserve the status quo pending decision by the Board, or to preserve its ability to provide relief in the event the Board decides in favor of the appellant.

(d) Review an appeal. (1) The Board shall have no jurisdiction to review:

(i) Any preaward dispute (except as provided in paragraph (d)(2)(ii) of this section), including use of any special restrictive condition pursuant to §600.105;

(ii) DOE denial of a request for a deviation under §600.4 of this part;

(iii) DOE denial of a request for a budget revision or other change in the approved project under §600.103, 600.114 or 600.271 of this part or under another term or condition of the award;

(iv) Any DOE action authorized under §600.121(b)(1), (2), (3) or (5) or 600.271 of this part with respect to recipient noncompliance, or such actions authorized by program rule;

(v) Any DOE decision about an action requiring prior DOE approval, under §600.112(g), 600.119, or 600.271 of this part or under another term or condition of the award;

(vi) A DOE decision not to make a continuation award, which decision is based on the insufficiency of available appropriations;

(vii) Any matter which is under the jurisdiction of the Patent Compensation Board (10 CFR 780.3);

(viii) Any matter which may be heard by the Invention Licensing Appeals Board (10 CFR 781.65 and 781.66); or

(ix) Any other dispute not described in paragraph (d)(2) of this section.

(2) In addition to any right of appeal established by program rule, or by the terms and conditions (not inconsistent with paragraph (d)(1) of this section) of an award, the Board shall have jurisdiction to review;

(i) A DOE determination that the recipient has failed to comply with the applicable requirements of this part, the program statute or rules, or other terms and conditions of the award;

(ii) A DOE decision not to make a continuation award based on any of the determinations described in paragraph (d)(2)(i) of this section;

(iii) Termination of an award for cause, in whole or in part, by DOE;

(iv) A DOE determination that an award is void or invalid;

(v) The application by DOE of an indirect cost rate; and

(vi) DOE disallowance of costs.

(3) In reviewing disputes authorized under paragraph (d)(2) of this section, the Board shall be bound by the applicable law, statutes, and rules, including the requirements of this part, and by the terms and conditions of the award.

(4) The decision of the Board shall be the final decision of the Department.

## **26. SUBCONTRACTS UNDER COST-REIMBURSEMENT AND LETTER CONTRACTS 52.244-2**

(a) "Subcontract," as used in this clause, includes but is not limited to purchase orders, and changes and modifications to purchase orders. The Contractor shall notify the Contracting Officer reasonably in advance of entering into any subcontract if -

(1) The proposed subcontract is of the cost-reimbursement, time-and-materials, or labor-hour type;

(2) The proposed subcontract is fixed-price and exceeds either \$25,000 or 5 percent of the total estimated cost of this contract;

(3) The proposed subcontract has experimental, developmental, or research work as one of its purposes; or

(4) This contract is not a facilities contract and the proposed subcontract provides for the fabrication, purchase, rental, installation, or other acquisition of special test equipment valued in excess of \$10,000 or of any items of industrial facilities.

(b)(1) In the case of a proposed subcontract that (i) is of the cost-reimbursement, time-and-materials, or labor-hour type and is estimated to exceed \$10,000, including any fee, (ii) is proposed to exceed \$100,000, or (iii) is one of a number of subcontracts with a single subcontractor, under this contract, for the same or related supplies or services that, in the aggregate, are expected to exceed \$100,000, the advance notification required by paragraph (a) above shall include the information specified in subparagraph (2) below.

(2) (i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor and an explanation of why and how the proposed subcontractor was selected, including the competition obtained.

(iv) The proposed subcontract price and the Contractor's cost or price analysis.

(v) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting -

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's cost or pricing data were not accurate complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(c) The Contractor shall obtain the Contracting Officer's written consent before placing any subcontract for which advance notification is required under paragraph (a) above. However, the Contracting Officer may ratify in writing any such subcontract. Ratification shall constitute the consent of the Contracting Officer.

(d) If the Contractor has an approved purchasing system and the subcontract is within the scope of such approval, the Contractor may enter into the subcontracts described in subparagraphs (a)(1) and (a)(2) above without the consent of the Contracting Officer, unless this contract is for the acquisition of major systems, subsystems, or their components.

(e) Even if the Contractor's purchasing system has been approved, the Contractor shall obtain the Contracting Officer's written consent before placing subcontracts that have been selected for special surveillance and identified in the Schedule of this contract.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination (1) of the acceptability of any subcontract terms or conditions, (2) of the allowability of any cost under this contract, or (3) to relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in subsection 16.301-4 of the Federal Acquisition Regulation (FAR).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i)(1) The Contractor shall insert in each price redetermination or incentive price revision subcontract under this contract the substance of the paragraph "Quarterly limitation on payments statement" of the clause at 52.216-5, Price Redetermination-Prospective, 52.216-6, Price Redetermination-Retroactive, 52.216-16, Incentive Price Revision-Firm Target, or 52.216-17 Incentive Price Revision-Successive Targets, as appropriate, modified in accordance with the paragraph entitled "Subcontracts" of that clause.

(2) Additionally, the Contractor shall include in each cost-reimbursement subcontract under this contract a requirement that the subcontractor insert the substance of the appropriate modified subparagraph referred to in subparagraph (1) above in each lower tier price redetermination or incentive price revision subcontract under that subcontract.

(j) To facilitate small business participation in subcontracting, the Contractor agrees to provide progress payments on subcontracts under this contract that are fixed-price subcontracts with small business concerns in conformity with the standards for customary progress payments stated in FAR 32.502-1 and 32.504(f), as in effect on the date of this contract. The Contractor further agrees that the need for such progress payments will not be considered a handicap or adverse factor in the award of subcontracts.

(k) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 443.3.

## 27. GOVERNMENT PROPERTY 10 CFR 600.117

(a) Definitions. (1) "Acquired with DOE grant funds" means that all or a portion of the acquisition cost of an item of property is a direct charge to DOE grant funds (whether the cost is incurred under the grant, a subgrant, or a cost-reimbursement contract) or all or a portion of the acquisition cost is a direct cost being used to meet a cost sharing requirement.

(2) "Acquisition cost" of an item of purchased equipment means the net invoice unit price of the equipment, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment usable for the purpose for which it was acquired. Other charges such as the cost of installation, transportation taxes, duty, or protective in-transit insurance, shall be included or excluded from the unit acquisition cost in accordance with the grantee's regular accounting practices.

(3) "Acquisition of property" means the purchase, construction, or fabrication of property but does not include rental of property or minor alteration or renovation of real property;



(4) "Allowable cost of the project" means, when used for purposes of determining the amount of reimbursement due under this section, the DOE (or non-Federal) share of the allowable cost which were either chargeable to DOE grant funds or counted toward meeting a cost sharing requirement of the grant during the project period. For property acquired by a subgrantee, the DOE share of the grantee's costs shall be multiplied by the grantee's share of the subgrantee's costs to determine the DOE share of the subgrantee's costs.

(5) "Equipment" means an article of tangible personal property that has a useful life of more than two years and an acquisition cost of \$500 or more. A grantee or or subgrantee may use its own definition of equipment provided the definition would include all articles of equipment as defined in this paragraph.

(6) "Exempt property" means equipment and supplies acquired with DOE grant funds for which the grantee or subgrantee is not required to account to DOE except as provided in paragraph (d)(2) of this section. The exempt status must be authorized by a Federal statute.

(7) "Federally owned property" means any real or tangible personal property (equipment or supplies) owned by DOE which is furnished by DOE to a grantee for use during the project period; and any such property acquired under a grant which DOE is required by statute or by a determination made in accordance with this part to own.

(8) "Nonexempt property" means equipment and supplies acquired with DOE grant funds which are subject to the conditions for use, management and disposition under paragraphs (d) and (e) of this section. For purposes of this section, nonexempt property includes excess personal property which has been made available to a grantee under authority of the Federal Property and Administrative Services Act, as amended by 40 U.S.C. 483, and the implementing Federal Property Management Regulations (41 CFR 101-43.320).

(9) "Real property" means land, land improvements, structures and anything attached to these so as to become a part of them. This term does not include movable machinery and other types of equipment.

(10) "Supply" means any tangible personal property other than equipment.

(b) Applicability. (1) Except as provided in paragraphs (b)(2) and (b)(3), this section applies to real property equipment, and supplies acquired with DOE grant funds, and to real property, equipment, and supplies furnished by DOE under a grant.

(2) The requirements of this section apply to grantees and subgrantees. The requirements of this section apply to equipment and supplies acquired by a contractor under a grant or subgrant only when the contract requires ownership of the property to remain with the grantee, subgrantee, or DOE.

(3) The requirements of this section do not apply to:

- (i) Property for which only use or depreciation allowances are charged;
- (ii) Property donated by a third party (whether or not counted as a third-party in-kind contribution); and
- (iii) Property acquired for sale or rental rather than for use in the grant project.

(4) Grantees and subgrantees may use their own property management standards and procedures if the requirements of this section are included.

(c) Real property. (1) Federally owned real property shall be managed and disposed of in accordance with the terms and conditions of the award.

(2) Real property may be acquired with DOE grant funds only when authorized by Federal statute or program rule and only if DOE specifically authorizes such costs in the award. Except as otherwise required by Federal statute or program rule, the following shall apply whenever real property is acquired with DOE grant funds.

(i) Subject to the conditions in paragraphs (c)(2)(ii) and (c)(2)(iii), the grantee shall have title to such real property during and after the period of DOE grant support. A subgrantee may have title to such real property only if authorized by Federal statute or program rule.

(ii) Except as provided in paragraph (c)(2)(iv), the grantee shall notify DOE at any time if the real property becomes unnecessary for the purpose authorized under the grant or subgrant under which it was acquired. The grantee must obtain written DOE approval to use the property for any other purpose. Such use shall be limited to federally assisted projects, or to programs, projects or activities that have purposes consistent with those authorized in the statute under which the grant was awarded.

(iii) Except as provided in paragraph (c)(2)(iv) of this section, whenever real property is no longer needed or used as provided in paragraph (c)(2)(ii) of this section, the grantee must request disposition instructions from DOE. DOE shall instruct that the real property be disposed of in one of the following ways, any one of which shall result in satisfaction of the grantee's accountability:

(A) The grantee or subgrantee may be permitted to retain the real property after compensating DOE in an amount computed by applying the percentage of DOE participation in the allowable costs of the project to the current fair market value of the property.

(B) The grantee or subgrantee may be directed to sell the real property and pay DOE an amount computed by applying the percentage of DOE participation in the allowable costs of the project to proceeds from sale (after deducting actual, reasonable selling expenses from the sales proceeds).

(C) The grantee or subgrantee may be directed to transfer title to the Federal government or to a non-Federal third party specified by DOE (although the grantee or subgrantee may suggest a potential third party transferee). The grantee or subgrantee shall be compensated in an amount computed by applying the grantee's percentage of participation in the allowable costs of the project to the current fair market value of the real property.

(D) If the real property was not wholly acquired with DOE grant funds, the proportional shares shall be adjusted by multiplying the percentage of the acquisition cost of the property (or if donated, the market value at the time of donation) which was attributable to DOE grant funds by the percentage of DOE, grantee, or subgrantee participation in the allowable costs of the project. This requirement also applies to reimbursement due under paragraph (d) or (e) of this section.

(iv) If real property is acquired under a grant or subgrant of \$10,000 or less, the grantee shall not be required to -

(A) Obtain DOE approval for any alternative use or disposition of the property after the end of the project period.

(B) Compensate DOE for its share of the acquisition cost of the real property.

(d) Equipment - (1) Federally owned equipment. Unless otherwise specified in the award, the grantee or subgrantee shall manage federally owned equipment provided by DOE or acquired with DOE grant funds in accordance with the property management standards in OMB Circular A - 102, Attachment N, Paragraph 6.d. or OMB Circular A-110, Attachment N, Paragraph 6.d., as applicable. The OMB Circular A-110 requirements shall also apply to individuals, for-profit organizations, and foreign organizations. However, if federally owned equipment has been provided under a grant, the grantee must submit annually an inventory to DOE which lists such equipment in the custody of the grantee, any subgrantee, or contractor under the grant. For federally owned equipment acquired with DOE grant funds, the grantee shall provide DOE written notification of the results of the inventory(ies) under OMB Circular A-102, Attachment N, Paragraph 6.d. or OMB Circular A-110, Attachment N, Paragraph 6.d., as applicable.

(i) During the period of DOE support, the grantee shall notify DOE as soon as practicable whenever federally owned equipment is no longer needed for the project. For expired or terminated grants, the grantee shall report any federally owned equipment upon request by DOE as part of closeout (see §600.123). Thereafter, DOE shall issue disposition instructions to the grantee in accordance with applicable law and regulations.

(2) Transfer of equipment. DOE may transfer ownership of any item of exempt or nonexempt equipment having a unit acquisition cost of \$1,000 or more to the Federal government or to an eligible third party named by DOE, subject to the following:

(i) DOE must notify the grantee in writing of its intent to transfer ownership within 120 days following the end of the project period or the termination of the DOE grant under which the equipment was acquired, and must specifically identify the equipment to be transferred. DOE shall arrange for transfer as soon as possible after the notice.

(ii) DOE may transfer ownership only when the equipment is no longer needed for the project for which it was acquired, or if the grantee or subgrantee agrees to relinquish the equipment.

(iii) The grantee shall be paid any reasonable storage or shipping costs incurred plus an amount computed by multiplying the current fair market value of the equipment by the non-Federal share, if any, in the allowable costs of the project. A grantee may, in the terms of a subgrant, reserve the right to transfer equipment acquired under the subgrant as provided in this paragraph. Without DOE approval, this right may be exercised only if the project for which the equipment was acquired is transferred to another subgrantee and the equipment is to be transferred for continued use in the project. Any other exercise of this right by the grantee requires the prior written approval of DOE.

(3) State governments, local governments, and Indian tribal governments shall comply with the provisions of OMB Circular A-102, Attachment N, Paragraphs 6.b, c, and d for the use, disposition and management of nonexempt equipment. All other types of grantees and subgrantees shall comply with OMB Circular A-110, Attachment N, Paragraphs 6.b, c, and d for use, disposition and management of such equipment.

(4) At the end of the project period or at the termination of DOE support for the project, the grantee shall provide an inventory of nonexempt equipment with a unit acquisition cost of \$1,000 or more acquired by the grantee or subgrantee along with a statement of grantee's or subgrantee's plans for continued use or recommendations for disposing of such equipment. If nonexempt equipment is acquired under a grant of \$10,000 or less, and DOE does not transfer ownership under paragraph (d)(2) of this section, the grantee shall have no further obligation to DOE with respect to the use, management, or disposition of such property.

(e) Supplies. (1) Federally owned supplies shall be used, managed, and disposed of in accordance with the terms and conditions of the award.

(2) If, at the end of the project period or upon termination of the grant or subgrant for which supplies (other than federally owned supplies) were acquired, unused supplies exceeding \$1,000 in total aggregate current fair market value remain, they may be used for any other federally funded activity of the grantee or subgrantee without compensation to DOE. Unless otherwise exempted by Federal statute, if they are not needed for any federally funded activity, the grantee or subgrantee must compensate DOE. If the supplies are retained for use on non-Federal activities, the amount due DOE shall be computed by multiplying the DOE share in the allowable costs of the project for which the supplies were acquired by the current fair market value of the supplies. If sold, the DOE share shall be multiplied by the sales proceeds or the current fair market value, whichever is greater, to determine the amount due DOE. The grantee or subgrantee may retain \$100 or ten percent of the proceeds, whichever is greater, for selling and handling expenses.

**28. PATENT INDEMNITY 41 CFR 9-9.103-3(b)**

The contractor shall indemnify the Government and its officers, agents, and employees against liability, including costs, for infringement of U.S. Letters Patent (except U.S. Letters Patent issued upon an application which is now or may hereafter be kept secret or otherwise withheld from issue by order of the Government resulting from the contractor's: (a) furnishing or supplying standard parts or components which have been sold or offered for sale to public on the commercial open market; or (b) utilizing its normal practices or methods which normally are or have been used in providing goods and services in the commercial open market, in the performance of the contract; or (c) utilizing any parts, components, practices, or methods to the extent to which the contractor has secured indemnification from liability. The foregoing indemnity shall not apply unless the contractor shall have been informed as soon as practicable by the Government of the suit or action alleging such infringement, and shall have been given such opportunity as is afforded by applicable laws, rules, or regulations to participate in the defense thereof; and further, such indemnity shall not apply to a claimed infringement which is settled without the consent of the contractor, unless required by final decree of a court of competent jurisdiction or to an infringement resulting from addition to or change in such supplies or components furnished or construction work performed for which addition or change was made subsequent to delivery or performance by the contractor.

**29. LIMITATION OF FUNDS 52.232-22**

This clause is applicable only to the extent that the agreement is incrementally funded within budget periods.

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Schedule specifies the amount presently available for payment by the Government and allotted to this contract, the items covered, the Government's share of the cost if this is a cost-sharing contract, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to the contract up to the full estimated cost to the Government specified in the Schedule, exclusive of any fee. The Contractor agrees to perform, or have performed, work on the contract up to the point at which the total amount paid and payable by the Government under the contract approximates but does not exceed the total amount actually allotted by the Government to the contract.

(c) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the costs it expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of (1) the total amount so far allotted to the contract by the Government or, (2) if this is a cost-sharing contract, the amount then allotted to the contract by the Government plus the Contractor's corresponding share. The notice shall state the estimated amount of additional funds required to continue performance for the period specified in the Schedule.

(d) Sixty days before the end of the period specified in the Schedule, the Contractor shall notify the Contracting Officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the Schedule or otherwise agreed upon, and when the funds will be required.

(e) If, after notification, additional funds are not allotted by the end of the period specified in the Schedule or another agreed-upon date, upon the Contractor's written request the Contracting Officer will terminate this contract on that date in accordance with the provisions of the Termination clause of this contract. If the Contractor estimates that the funds available will allow it to continue to discharge its obligations beyond that date, it may specify a later date in its request, and the Contracting Officer may terminate this contract on that later date.

(f) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause-

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of the total amount allotted by the Government to this contract; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of (i) the amount then allotted to the contract by the Government or, (ii) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, until the Contracting Officer notifies the Contractor in writing that the amount allotted by the Government has been increased and specifies an increased amount, which shall then constitute the total amount allotted by the Government to this contract.

(g) The estimated cost shall be increased to the extent that (1) the amount allotted by the Government or, (2) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, exceeds the estimated cost specified in the Schedule. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(h) No notice, communication, or representation in any form other than that specified in subparagraph (f)(2) above, or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to this contract. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the total amount allotted by the Government to this contract, whether incurred during the course of the contract or as a result of termination.

(i) When and to the extent that the amount allotted by the Government to the contract is increased, any costs the Contractor incurs before the increase that are in excess of (1) the amount previously allotted by the Government or, (2) if this is a cost-sharing contract, the amount previously allotted by the Government to the contract plus the Contractor's corresponding share, shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice and directs that the increase is solely to cover termination or other specified expenses.

(j) Change orders shall not be considered an authorization to exceed the amount allotted by the Government specified in the Schedule, unless they contain a statement increasing the amount allotted.

(k) Nothing in this clause shall affect the right of the Government to terminate this contract. If this contract is terminated, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

(l) If the Government does not allot sufficient funds to allow completion of the work, the Contractor is entitled to a percentage of the fee specified in the Schedule equaling the percentage of completion of the work contemplated by this contract.

### **30. ALLOWABLE COST AND PAYMENT 952.216-7**

(a) Invoicing. The Government shall make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with the applicable cost principles of the Federal Acquisition Regulation (FAR) and the DOE Acquisition Regulation (DEAR) in effect on the date of this contract and the terms of this contract. The applicable cost principles are:

(i) FAR Subpart 31.2 and DEAR Subpart 931.2 if the contractor is a commercial organization;

(ii) FAR Subpart 31.3, if the contractor is an educational institution;

(iii) FAR Subpart 31.6, if the contractor is a state or local government or Federally recognized Indian tribal government; or

(iv) FAR Subpart 31.7, if the contractor is nonprofit organization.

(1) The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(b) Reimbursing costs. (1) For the purpose of reimbursing allowable costs (except as provided in subparagraph (2) below, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term "costs" includes only-

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for -

(A) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;

(B) Direct Labor;

(C) Direct travel;

(D) Other direct in-house costs; and

(E) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of progress payments that have been paid to the contractor's subcontractors under similar cost standards.

(2) Contractor contributions to any pension, profit-sharing, or employee stock ownership plan funds that are paid quarterly or more often may be included in indirect costs for payment purposes; provided, that the contractor pays the contribution to the fund within 30 days after the close of the period covered. Payments made 30 days or more after the close of period shall not be included until the Contractor actually makes the payment. Accrued costs for such contributions that are paid less often than quarterly shall be excluded from indirect costs for payment purposes until the Contractor actually makes the payment.

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) below, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) below.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.



(c) Small business concern. A small business concern may be paid more often than every 2 weeks and may invoice and be paid for recorded costs for items or services purchased directly for the contract, even though the concern has not yet paid for those items or services.

(d) Final indirect cost rates. (1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect costs rate proposal.

(2) The Contractor shall, within 90 days after the expiration of each of its fiscal years, or by a later date approved by the Contracting Officer, submit to the cognizant Contracting Officer responsible for negotiating its final indirect cost rates and, if required by agency procedures, to the cognizant audit activity proposed final indirect cost rates for that period and supporting cost data specifying the contract and/or subcontract to which the rates apply. The proposed rates shall be based on the Contractor's actual cost experience for that period. The appropriate Government representative and Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractor's proposal.

(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. Such understanding shall specify (i) the agreed-upon final annual indirect cost rates, (ii) the bases to which the rates apply, (iii) the periods for which the rates apply, (iv) any specific indirect cost items treated as direct costs in the settlement, and (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates. The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor) subject to adjustment when the final rates are established. These billing rates;

(1) Shall be the anticipated final rates; and

(2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

(f) Quick-closeout procedures. When the Contractor and Contracting Officer agree, the quick-closeout procedures of Subpart 42.7 of the FAR may be used.

(g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be (1) reduced by amounts found by the Contracting Officer not to constitute allowable costs or (2) adjusted for prior overpayments or underpayments.

(h) Final payment. (1) The Contractor shall submit a completion invoice or voucher, designated as such, promptly upon completion of the work, but no later than one year (or longer, as the Contracting Officer may approve in writing) from the completion date. Upon approval of that invoice or voucher, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver-

(i) An assignment to the government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except-

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known.

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer, within 6 years following the release date or notice or final payment date, whichever is earlier; and

(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

**31. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA 52.215-22**

(a) If any price, including profit or fee, negotiated in connection with this contract, or any cost reimbursable under this contract, was increased by any significant amount because (1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data, (2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data, or (3) any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction.

(b) Any reduction in the contract price under paragraph (a) above due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which (1) the actual subcontractor or (2) the actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

**32. SUBCONTRACTOR COST OR PRICING DATA 52.215-24**

(a) Before awarding any subcontract expected to exceed \$500,000 when entered into, or before pricing any subcontract modification involving a pricing adjustment expected to exceed \$500,000, the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless the price is-

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(b) The Contractor shall require the subcontractor to certify in substantially the form prescribed in Subsection 15.804-4 of the Federal Acquisition Regulation (FAR) that, to the best of its knowledge and belief, the data submitted under paragraph (a) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(c) In each subcontract that exceeds \$500,000 when entered into, the Contractor shall insert either-

(1) The substance of this clause, including this paragraph (c), if paragraph (a) above requires submission of cost or pricing data for the subcontract; or

(2) The substance of the clause at FAR 52.215-25, Subcontractor Cost or Pricing Data-Modifications.

**34. ADDITIONAL TECHNICAL DATA REQUIREMENTS 952.227-73**

(a) In addition to the technical data specified elsewhere in this contract to be delivered, the contracting officer may at any time during the contract performance or within one year after final payment call for the contractor to deliver any technical data first produced or specifically used in the performance of this contract, except technical data pertaining to items of standard commercial design.

(b) The provisions of the Rights in Technical Data clause included in this contract are applicable to all technical data called for under this Additional Technical Data Requirements clause. Accordingly, nothing contained in this clause shall require the contractor to actually deliver any technical data, the delivery of which is excused by paragraph (e) of the Rights in Technical Data clause.

(c) When technical data are to be delivered under this clause, the contractor will be compensated for appropriate costs for converting such data into the prescribed form for reproduction, and for delivery.

**34. UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS 52.219-8**

(a) It is the policy of the United States that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

(c) As used in this contract, the term "small business concern" shall mean a small business as defined pursuant to section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto. The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern -

(1) Which is at least 51 percent owned by one or more socially and economically disadvantaged individuals; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

(2) Whose management and daily business operations are controlled by one or more of such individuals.

The Contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans and other minorities, or any other individual found to be disadvantaged by the Administration pursuant to section 8(a) of the Small Business Act.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as either a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals.

### **35. UTILIZATION OF WOMEN-OWNED SMALL BUSINESSES 52.219-13**

(a) "Women-owned small business," as used in this clause, means businesses that are at least 51 percent owned by women who are United States citizens and who also control and operate the business.

"Control," as used in this clause, means exercising the power to make policy decisions.

"Operate," as used in this clause, means being actively involved in the day-to-day management of the business.

(b) It is the policy of the United States that women-owned small businesses shall have the maximum practicable opportunity to participate in performing contracts awarded by any Federal agency.

(c) The Contractor agrees to use its best efforts to give women-owned small businesses the maximum practicable opportunity to participate in the subcontracts it awards to the fullest extent consistent with the efficient performance of its contract.

### **36. SMALL AND DISADVANTAGED SUBCONTRACTING PLAN 52.219-9**

(a) The contractor agrees to comply in good faith with the Small and Disadvantaged Business Subcontracting Plan which is hereby incorporated in and made a part of this contract. In this connection, the contractor shall:

(1) Use his best efforts to attain such percentage goals as may be set forth in the plan.

(2) Designate an individual who will:

(i) Maintain liaison with the Government on matters relating to small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals;

(ii) Monitor compliance with the clause entitled "Utilization of Small Business Concerns and Small Disadvantaged Business Concerns", and

(iii) Administer the contractor's plan.

(3) Provide adequate and timely consideration of the potentialities of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals in all "make-or-buy" decisions.

(4) Assure that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals will, consistent with efficient performance of the contract, have the maximum practicable opportunity to compete for subcontracts, particularly by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation of such concerns. Where the Contractor's lists of potential subcontractors which are small business and small business concerns owned and controlled by socially and economically disadvantaged individuals are excessively long, reasonable effort shall be made to give all such concerns an opportunity to compete over a period of time.

(5) Maintain records showing:

(i) Whether each subcontractor is a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals; and

(ii) Procedures which have been adopted to comply with the plan and the policies set forth in this clause.

(6) Notify the Contracting Officer before soliciting bids, quotations, or proposals on any subcontract (including purchase orders) in excess of \$100,000 if:

(i) No small business concern or small business concern owned and controlled by socially and economically disadvantaged individuals is to be solicited, and

(ii) The Contracting Officer's consent to the subcontract is required by a "Subcontracts" clause in this contract. Such notification will state contractor's reasons for nonsolicitation of small business and small business concerns owned and controlled by socially and economically

disadvantaged individuals and will be given as early in the procurement cycle as possible so that the Contracting Officer may suggest potentially qualified small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals. In no case will the procurement action be held up when to do so would, in the Contractor's judgment, delay performance under the contract and the Contractor's notification shall specify that he is proceeding with the solicitation.

(7) Include the clause "Utilization of Small Business Concerns and Small Disadvantaged Business Concerns" in all subcontracts over \$10,000 which offer further subcontracting opportunities.

(8) Cooperate in any studies or surveys of the Contractor's subcontracting procedures and practices as may be required by the DOE or the Small Business Administration.

(9) Submit reports of subcontracts to small and disadvantaged business concerns on such forms as may be specified elsewhere in this contract.

(b) The Contractor agrees that failure to comply in good faith with the clause entitled "Utilization of Small Business Concerns and Small Disadvantaged Business Concerns" or the terms of the subcontracting plan incorporated into the contract will be a material breach of the contract and the contract may be terminated in whole or, in part, for default.

(c) The contractor further agrees to insert in all subcontracts hereunder (except those with small business concerns) which contain the clause entitled "Utilization of Small Business Concerns and Small Disadvantaged Business Concerns" which offer further subcontracting opportunities, and which may exceed \$1,000,000 in the case of a subcontract for the construction of any public facility or in excess of \$500,000 in the case of all other subcontracts, provisions which shall conform substantially to the language of this clause, including this paragraph (c), and to notify the Contracting Officer of the names of such subcontractors.

(d) The provisions of this clause shall not apply to small business concerns.

### 37. KEY PERSONNEL 952.235-70

The personnel specified in the schedule clauses of this contract are considered to be essential to the work being performed hereunder. Prior to diverting any of the specified individuals to other programs, the Contractor shall notify the Contracting Officer reasonably in advance and shall submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on the program. No diversion shall be made by the Contracting Officer: Provided, that the Contracting Officer may ratify in writing such diversion and such ratification shall constitute the consent of the Contracting Officer required by this clause. The Key Personnel may be amended from time to time during the course of the contract, as appropriate.

### **38. RECORD RETENTION REQUIREMENTS**

Participants and subrecipients shall retain records as specified in the General Provisions clause "Access to Records" for a three-year period. This three-year period shall be calculated as follows:

- (a) If DOE financial assistance support is continued or renewed at annual or other intervals, the retention period for the records of each budget period shall commence on the date the participant submits its Financial Status Report (or equivalent) to DOE, or if the requirement for such an expenditure report has been waived, the retention period shall start 90 days after the completion date of the Cooperative Agreement.
- (b) Equipment records. The record retention period for the equipment records required by 10 CFR 600.117 starts from the date of disposition or transfer of the property by or at the direction of the awarding party.
- (c) Program income records. The record retention period for program income earned after the project period shall start on the last day of the participant's fiscal year in which such income was earned or received. All other program income records shall be retained in accordance with paragraph (a) of this clause.
- (d) Indirect cost computation records. The retention period for supporting records for indirect cost rate computations or proposals submitted to the awarding party or other Federal agency for negotiation starts from date of submission of the proposal or computation.
- (e) If any litigation, claim, negotiation, audit or other disputed action involving the records has been started before the expiration of the three-year period, the records shall be retained until such actions and all related issues are resolved, or until the end of the regular retention period, whichever is later.
- (f) DOE may request that records be transferred to its custody. After the records are transferred to DOE, the three-year retention requirement does not apply to the transferred records.
- (g) Microfilm copies or computer disk may be substituted for original records.
- (h) The retention requirements for contractor and subcontractor records are as follows:
  - (i) In negotiated contracts whose value is more than \$10,000, the participant shall include a clause requiring the contractor to retain records for three years after final payment is made under the contract. The clause must also require that if an audit, litigation, or other action involving the records is started before the end of the three-year period, the records must be retained until all issues arising out of the action are resolved, or until the end of the three-year period, whichever is later.



- (i) DOE may request copies of any records required to be kept by state law that are related to this Cooperative Agreement. This right continues for the records retention period established by the state.

ATTACHMENT C

FEDERAL ASSISTANCE REPORTING CHECKLIST

The Participant shall prepare and submit (postage prepaid) the plans and reports indicated on the attached Reporting Requirements Checklist. The Participant shall prepare the specified plans and reports in accordance with the formats and structure set forth in DOE Order 1332.2 (Appendix H). The level of detail the Participant must provide in any required plans and reports shall be commensurate with the scope and complexity of the task and the reporting categories specified elsewhere in this Cooperative Agreement. The Participant shall be responsible for levying appropriate reporting requirements on any contractor/subcontractor in such a manner to ensure that data submitted by the contractor/subcontractor to the Participant is compatible with the data elements that the Participant is responsible for submitting to DOE.

**U.S. DEPARTMENT OF ENERGY  
FEDERAL ASSISTANCE REPORTING CHECKLIST**

FORM EIA-488A  
(10/80)

FORM APPROVED  
OMB NO. 1900-0127

1. Identification Number:	2. Program/Project Title:		
3. Recipient:			
<b>4. Reporting Requirements:</b>  <b>PROGRAM/PROJECT MANAGEMENT REPORTING</b> <input checked="" type="checkbox"/> Federal Assistance Milestone Plan <input checked="" type="checkbox"/> Federal Assistance Budget Information Form <input checked="" type="checkbox"/> Federal Assistance Management Summary Report <input checked="" type="checkbox"/> Federal Assistance Program/Project Status Report <input checked="" type="checkbox"/> Financial Status Report, OMB Form 269  <b>TECHNICAL INFORMATION REPORTING</b> <input checked="" type="checkbox"/> Notice of Energy RD&D <input checked="" type="checkbox"/> Technical Progress Report <input checked="" type="checkbox"/> Topical Report <input checked="" type="checkbox"/> Final Technical Report	<b>Frequency</b>	<b>No. of Copies</b>	<b>Addressees</b>
	X Q	1, 2, 1	A, B, C
	X	1, 2, 1	A, B, C
	Q	1, 2, 1	A, B, C
	Q	1, 2, 1	A, B, C
	M	1, 1, 1,1	A, B, C, F
	O, Y	1, 1, 1	C, D, E
	Q	1, 2, 1,1	A, B, C, D
	A	1, 2, 1,1	A, B, C, D
	F	1,1, 2, 1,1	A, B,C,D,E
<b>FREQUENCY CODES AND DUE DATES:</b>  A - As Necessary; within 5 calendar days after events. F - Final; 90 calendar days after the performance of the effort ends. Q - Quarterly; within 30 days after end of calendar quarter or portion thereof. O - One time after project starts; within 30 days after award. X - Required with proposals or with the application or with significant planning changes. Y - Yearly; 30 days after the end of program year. (Financial Status Reports 90 days). S - Semiannually; within 30 days after end of program fiscal half year.			
<b>5. Special Instructions:</b>  (SEE ATTACHED)			
6. Prepared by: (Signature and Date)		7. Reviewed by: (Signature and Date)	

## FEDERAL ASSISTANCE REPORTING CHECKLIST

### PURPOSE

This form serves to identify plans and reports selected by DOE as reporting requirements for the Federal Assistance Program/Project.

### INSTRUCTIONS

- Item 1 — Enter the program /project identification number as it appears in the official award.
- Item 2 — Enter the program/project description as it appears in the official award.
- Item 3 — Enter the name of the recipient.

- Item 4 — Check spaces to indicate plans and reports selected. For each report checked, indicate frequency of delivery in column provided using one of the frequency of delivery codes as shown, as well as the number of copies requested and to whom they should be sent.

Federal Assistance Milestone Plan — presents, with the accompanying Milestone Log, a schedule of the planned activity.

Federal Assistance Budget Information Form — presents the planned costs.

Federal Assistance Management Summary Report — registers planned progress and costs to actual progress and costs in a capsulized format.

Federal Assistance Program/Project Status Report — periodically reports project status, explains variances and problems, and discusses any other areas of concern or achievements.

Financial Status Report, OMB Form 269 — presents the status of funds committed to the project.

Notice of energy R&D Project — provides information on unclassified DOE R&D Project for dissemination to the scientific, technical, and industrial communities and to the public. Also provides information to the Smithsonian Information Exchange and to the DOE Technical Information Center.

Technical Progress Report — periodically reports progress and/or results of DOE supported R&D and scientific projects covering a specific reporting period.

Topical Report — presents the technical results of work performed on a specific phase of a project.

Final Technical Report — presents a technical accounting of the total work performed on a project.

Frequency Codes - Each code represents a specific reporting frequency (such as Quarterly). These time periods are suggested in the program announcement and negotiated at the time of the award.

- Item 5 — Identify any special reporting requirements or instructions not identified in Item 4. (Use additional sheets as necessary.).
- Item 6 — Signature of person preparing the checklist and the date prepared. Preparation is by person responsible for program solicitation.
- Item 7 — Signature of the person reviewing the checklist and date reviewed.

ATTACHMENT FOR "FED ASSISTANCE REPORTING CHECKLIST"

5. Special Instructions

- a. Program/Project Management reporting will be by work breakdown structure (WBS) as follows:

Level 1 .....Project

Level 2 .....Phase (i.e., Design, Construction, Operation)

Level 3 .....Tasks (as defined in SOW)

- b. Technical reports sent to OSTI should be in the form of a reproducible master and one copy.

- c. Special reports:

1. Environmental Monitoring Outline (see attached Federal Register Notice "Synthetic Fuels Corporation - Final Environmental Monitoring Plan Guidelines" for guidance) (O/1,2,1,1/ABCD).
2. Environmental Monitoring Plan (O/1,2,1,1/ABCD) (see 1 above).
3. Quarterly Environmental Monitoring Report (Q/1,2,1,1/ABCD) (see 1 above).
4. Annual Environmental Monitoring Report (A/1,2,1,1/ABCD) (see 1 above).
5. Project Evaluation Plan (see Model Cooperative Agreement for discussion) (O/1,2,1,1,/ABCF).

6. Project Evaluation Report (60 days prior to the end of Phase I and end of Phase II /1,2,1,1/ABCF).
  7. Preliminary Design Report (at end of Preliminary Design /1,2,1,1/A,B,C,D).
  8. Final Design Report (after completion of Phase I /1,2,1,1/A,B,C,D).
  9. Environmental Report (to be used in NEPA evaluation) (prior to initiation of detail design /1,2,1,1/A,B,C,D).
  10. Program Income/Revenue Report as described in Schedule Article II, paragraph D to be submitted (by January 1 of each year/1,1,1,1/A,B,C,F).
  11. Federal Cash Transactions Report (SF-272) to be used for Advanced Payment Only. (Frequency to be determined at time of award/1,1,/C,F).
  12. Conference Papers (as necessary/1,1/A,B).
  13. All Deliverable/reports Called for in the Statement of Work shown in Attachment A. (Frequency is one-time only/1,1/A,B).
- d. The final technical report and all deliverable/reports called for in the Statement of Work will be submitted in draft form. DOE will be given 30 days for review and comment. The Participant will incorporate the DOE comments and finalize the report within 15 days.

## DISTRIBUTION

- A. Program Manager
- B. Contracting Officer's Technical Representative
- C. Contracting Officer
- D. Office of Patent Counsel
- E. Office of Scientific and Technical Information (OSTI)
- F. Financial Officer

(Addresses to be provided at time of award)

ATTACHMENT D

BILLING INSTRUCTION

(To be inserted at time of Award)



APPENDIX C

PROJECT SUMMARY SHEET

Program Opportunity Notice

DE-PS01-86FE60966

Clean Coal Technology

Cooperative Agreements

PROJECT SUMMARY SHEET

1. Project Title:
2. Proposer Name(s):
3. Proposer Address:
4. County:
5. Responsible Official:
6. Telephone Number:
7. Alternate Contact:
8. Telephone Number:
9. Technology:
10. Applications(s):
11. Project Location:
12. County:

(continued)

PROJECT SUMMARY SHEET (continued)

13. Types of Coal to be Used:

14. Project Size:

15. Proposed Starting Date:

16. Proposed Project Duration (months):

17. Total Estimated Project Cost (participant & government):

18. Participant Cost Share (% total):

19. Cost by Phase:

	<u>TOTAL (\$)</u>	<u>Participant's Share (%)</u>	<u>DOE Share (%)</u>
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Phase 1			
Phase 2			
Phase 3			

APPENDIX D

- not used -

APPENDIX E

FEDERAL ASSISTANCE APPLICATION  
FORM

<b>FEDERAL ASSISTANCE</b>		2. APPLICANT'S APPLICATION IDENTIFIER	a. NUMBER	3. STATE APPLICATION IDENTIFIER	a. NUMBER
1. TYPE OF SUBMISSION (Mark appropriate box) <input type="checkbox"/> NOTICE OF INTENT (OPTIONAL) <input type="checkbox"/> PREAPPLICATION <input type="checkbox"/> APPLICATION	b. DATE Year month day 19	NOTE TO BE ASSIGNED BY STATE 19		b. DATE ASSIGNED Year month day 19	
4. LEGAL APPLICANT/RECIPIENT a. Applicant Name b. Organization Unit c. Street/P.O. Box d. City e. State f. Contact Person (Name & Telephone No.)		a. County g. ZIP Code		5. EMPLOYER IDENTIFICATION NUMBER (EIN) a. PRO-GRAM (From CPDA) b. NUMBER c. TITLE	
7. TITLE OF APPLICANT'S PROJECT (Use section IV of this form to provide a summary description of the project.)		8. TYPE OF APPLICANT/RECIPIENT <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> County <input type="checkbox"/> City <input type="checkbox"/> Other		9. TYPE OF APPLICANT/RECIPIENT <input type="checkbox"/> General Purpose District <input type="checkbox"/> Community Action Agency <input type="checkbox"/> Higher Educational Institution <input type="checkbox"/> Other	
9. AREA OF PROJECT IMPACT (Names of cities, counties, states, etc.)		10. ESTIMATED NUMBER OF PERSONS BENEFITING		11. TYPE OF ASSISTANCE <input type="checkbox"/> State Grant <input type="checkbox"/> Federal Grant <input type="checkbox"/> Other	
12. PROPOSED FUNDING a. FEDERAL \$ .00 b. APPLICANT \$ .00 c. STATE \$ .00 d. LOCAL \$ .00 e. OTHER \$ .00 f. Total \$ .00		13. CONGRESSIONAL DISTRICTS OF: a. APPLICANT b. PROJECT 15. PROJECT START DATE Year month day 16. PROJECT DURATION Months 17. DATE DUE TO FEDERAL AGENCY Year month day		14. TYPE OF APPLICATION <input type="checkbox"/> New <input type="checkbox"/> Renewal <input type="checkbox"/> Extension <input type="checkbox"/> Other	
18. FEDERAL AGENCY TO RECEIVE REQUEST a. ORGANIZATIONAL UNIT (IF APPROPRIATE) b. ADDRESS		19. ADMINISTRATIVE CONTACT (IF KNOWN)		20. EXISTING FEDERAL GRANT IDENTIFICATION NUMBER	
21. REMARKS ADDED <input type="checkbox"/> Yes <input type="checkbox"/> No		22. THE APPLICANT CERTIFIES THAT: To the best of my knowledge and belief, data in this presentation/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurance if the assistance is approved.			
23. CERTIFYING REPRESENTATIVE a. TYPED NAME AND TITLE b. SIGNATURE		24. APPLICATION RECEIVED 19 Year month day			
25. FEDERAL APPLICATION IDENTIFICATION NUMBER		26. FEDERAL GRANT IDENTIFICATION			
27. ACTION TAKEN <input type="checkbox"/> a. AWARDED <input type="checkbox"/> b. REJECTED <input type="checkbox"/> c. RETURNED FOR AMENDMENT <input type="checkbox"/> d. RETURNED FOR E.O. 12372 SUBMISSION BY APPLICANT TO STATE <input type="checkbox"/> e. DEFERRED <input type="checkbox"/> f. WITHDRAWN		28. FUNDING a. FEDERAL \$ .00 b. APPLICANT \$ .00 c. STATE \$ .00 d. LOCAL \$ .00 e. OTHER \$ .00 f. TOTAL \$ .00		29. ACTION DATE 19 Year month day 30. CONTACT FOR ADDITIONAL INFORMATION (Name and telephone number)	
31. STARTING DATE 19 Year month day 32. ENDING DATE 19 Year month day 33. REMARKS ADDED <input type="checkbox"/> Yes <input type="checkbox"/> No		34. REMARKS ADDED <input type="checkbox"/> Yes <input type="checkbox"/> No			

## GENERAL INSTRUCTIONS FOR THE SF-424

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted in accordance with OMB Circular A-102. It will be used by Federal agencies to obtain applicant certification that states which have established review and comment procedure in response to Executive Order 12372 and have selected the program to be included in the process have been given an opportunity to review the applicant's submission.

### APPLICANT PROCEDURES FOR SECTION I

Applicant will complete all items in Section I with the exception of Box 3, "State Application Identifier." If an item is not applicable, write "NA." If additional information is needed, insert an asterisk "\*" and use Section IV. An explanation follows for each item:

- |   |  |
|---|--|
| <p><b>Item</b></p> <p>1. Mark appropriate box. Preapplication and application are described in OMB Circular A-102 and Federal agency program instructions. Use of this form as a Notice of Intent is at State option. Federal agencies do not require Notices of Intent.</p> <p>2a. Applicant's own control number, if desired.</p> <p>2b. Date Section I is prepared (at applicant's option).</p> <p>3a. Number assigned by State.</p> <p>3b. Date assigned by State.</p> <p>4a-4h. Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of applicant, and name and telephone number of the person who can provide further information about this request.</p> <p>5. Employer Identification Number (EIN) of applicant as assigned by the Internal Revenue Service.</p> <p>6a. Use Catalog of Federal Domestic Assistance (CFDA) number assigned to program under which assistance is requested. If more than one program (e.g., joint funding), check "multiple" and explain in Section IV. If unknown, cite Public Law or U.S. Code.</p> <p>6b. Program title from CFDA. Abbreviate if necessary.</p> <p>7. Use Section IV to provide a summary description of the project. If appropriate, i.e., if project affects particular sites as, for example, construction or real property projects, attach a map showing the project location.</p> <p>8. "City" includes town, township or other municipality.</p> <p>9. List only largest unit or units affected, such as State, county, or city.</p> <p>10. Estimated number of persons directly benefiting from project.</p> <p>11. Check the type(s) of assistance requested.</p> <p style="margin-left: 20px;">A. Basic Grant—an original request for Federal funds.</p> <p style="margin-left: 20px;">B. Supplemental Grant—a request to increase a basic grant in certain cases where the eligible applicant cannot supply the required matching share of the basic Federal program (e.g., grants awarded by the Appalachian Regional Commission to provide the applicant a matching share).</p> <p style="margin-left: 20px;">E. Other. Explain in Section IV.</p> <p>12. Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included. If the action is a change in dollar amount of an existing grant</p> | <p><b>Item</b></p> <p>(a revision or augmentation under item 14), indicate only the amount of the change. For decreases, enclose the amount in parentheses. If basic and supplemental amounts are included, breakout in Section IV. For multiple program funding, use totals and show program breakout in Section IV. 12a—amount requested from Federal Government. 12b—amount applicant will contribute. 12c—amount from State applicant is not a State. 12d—amount from local government applicant is not a local government. 12e—amount from any other sources, explain in Section IV.</p> <p>13b. The district(s) where most of action work will be accomplished. If city-wide or State-wide, covering several districts, write "city-wide" or "State-wide."</p> <p>14. A. New. A submittal for project not previously funded.<br/>B. Renewal. An extension for an additional funding/budget period for project having no projected completion date, but for which Federal support must be renewed each year.<br/>C. Revision. A modification to project nature or scope which may result in funding change (increase or decrease).<br/>D. Continuation. An extension for an additional funding/budget period for a project with a projected completion date.<br/>E. Augmentation. A requirement for additional funds for a project previously awarded funds in the same funding/budget period. Project nature and scope unchanged.</p> <p>15. Approximate date project expected to begin (usually associated with estimated date of availability of funding).</p> <p>16. Estimated number of months to complete project after Federal funds are available.</p> <p>17. Complete only for revisions (item 14c), or augmentations (item 14e).</p> <p>18. Date preapplication/application must be submitted to Federal agency in order to be eligible for funding consideration.</p> <p>19. Name and address of the Federal agency to which this request is addressed. Indicate as clearly as possible the name of the office to which the application will be delivered.</p> <p>20. Existing Federal grant identification number if this is not a new request and directly related to a previous Federal action. Otherwise, write "NA."</p> <p>21. Check appropriate box as to whether Section IV of form contains remarks and/or additional remarks are attached.</p> |
|---|--|

### APPLICANT PROCEDURES FOR SECTION II

Applicants will always complete either item 22a or 22b and items 23a and 23b.

- |   |  |
|---|--|
| <p>22a. Complete if application is subject to Executive Order 12372 (State review and comment).</p> | <p>22b. Check if application is not subject to E.O. 12372.</p> <p>23a. Name and title of authorized representative of legal applicant.</p> |
|---|--|

### FEDERAL AGENCY PROCEDURES FOR SECTION III

Applicant completes only Sections I and II. Section III is completed by Federal agencies.

- |   |   |
|---|---|
| <p>26. Use to identify award actions.</p> <p>27. Use Section IV to amplify where appropriate.</p> <p>28. Amount to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions will be included. If the action is a change in dollar amount of an existing grant (a revision or augmentation under item 14), indicate only the amount of change. For decreases, enclose the amount in parentheses. If both basic and supplemental amounts are included, breakout in Section IV. For multiple program funding, use totals and show program breakouts in Section IV. 28a—amount awarded by Federal Government. 28b—amount applicant</p> | <p>will contribute. 28c—amount from State, if applicant is not a State. 28d—amount from local government, if applicant is not a local government. 28e—amount from any other sources, explain in Section IV.</p> <p>29. Date action was taken on this request.</p> <p>30. Date funds will become available.</p> <p>31. Name and telephone number of agency person who can provide further information regarding this assistance.</p> <p>32. Date after which funds will no longer be available for obligation.</p> <p>33. Check appropriate box as to whether Section IV of form contains Federal remarks and/or attachment of additional remarks.</p> |
|---|---|

APPENDIX F

ASSURANCE OF COMPLIANCE -  
NON-DISCRIMINATION IN FEDERALLY  
ASSISTED PROGRAMS



U.S. Department of Energy

Assurance of Compliance

Nondiscrimination in Federally Assisted Programs

(Hereinafter called the "Applicant") HEREBY AGREES to comply with Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352), Section 18 of the Federal Energy Administration Act of 1974 (Pub. L. 93-275), Section 401 of the Energy Reorganization Act of 1974 (Pub. L. 93-438), Title IX of the Education Amendments of 1972, as amended, (Pub. L. 92-318, Pub. L. 93-568, and Pub. L. 94-482), Section 504 of the Rehabilitation Act of 1973 (Pub. L. 93-112), the Age Discrimination Act of 1975 (Pub. L. 94-135), Title VIII of the Civil Rights Act of 1968 (Pub. L. 90-284), the Department of Energy Organization Act of 1977 (Pub. L. 95-91), and the Energy Conservation and Production Act of 1978, as amended, (Pub. L. 94-385). In accordance with the above laws and regulations issued pursuant thereto, the Applicant agrees to assure that no person in the United States shall, on the ground of race, color, national origin, sex, age, or handicap, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity in which the Applicant receives Federal assistance from the Department of Energy.

Applicability and  
Period of Obligation

In the case of any service, financial aid, covered employment, equipment, property, or structure provided, leased, or improved with Federal assistance extended to the Applicant by the Department of Energy, this assurance obligates the Applicant for the period during which Federal assistance is extended. In the case of any transfer of such service, financial aid, equipment, property, or structure, this assurance obligates the transferee for the period during which Federal assistance is extended. If any personal property is so provided, this assurance obligates the Applicant for the period during which it retains ownership or possession of the property. In all other cases, this assurance obligates the Applicant for the period during which the Federal assistance is extended to the Applicant by the Department of Energy.

Employment Practices

Where a primary objective of the Federal assistance is to provide employment or where the Applicant's employment practices affect the delivery of services in programs or activities resulting from Federal assistance extended by the Department, the Applicant agrees not to discriminate on the ground of race, color, national origin, sex, age, or handicap, in its employment practices. Such employment practices may include, but are not limited to, recruitment, recruitment advertising, hiring, layoff or termination, promotion, demotion, transfer, rates of pay, training and participation in upward mobility programs; or other forms of compensation and use of facilities.

Subrecipient Assurance

The Applicant shall require any individual, organization, or other entity with whom it subcontracts, subgrants, or subleases for the purpose of providing any service, financial aid, equipment, property, or structure to comply with laws cited above. To this end, the subrecipient shall be required to sign a written assurance form, however, the obligation of both recipient and subrecipient to ensure compliance is not relieved by the collection or submission of written assurance forms.

Data Collection and  
Access to Records

The Applicant agrees to compile and maintain information pertaining to programs or activities developed as a result of the Applicant's receipt of Federal assistance from the Department of Energy. Such information shall include, but is not limited to, the following: (1) the manner in which services are or will be provided and related data necessary for determining whether

any persons are or will be denied such services on the basis of prohibited discrimination; (2) the population eligible to be served by race, color, national origin, sex, age and handicap; (3) data regarding covered employment including use or planned use of bilingual public contact employees serving beneficiaries of the program where necessary to permit effective participation by beneficiaries unable to speak or understand English; (4) the location of existing or proposed facilities connected with the program and related information adequate for determining whether the location has or will have the effect of unnecessarily denying access to any person on the basis of prohibited discrimination; (5) the present or proposed membership by race, color, national origin, sex, age and handicap, in any planning or advisory body which is an integral part of the program; and (6) any additional written data determined by the Department of Energy to be relevant to its obligation to assure compliance by recipients with laws cited in the first paragraph of this assurance.

The Applicant agrees to submit requested data to the Department of Energy regarding programs and activities developed by the Applicant from the use of Federal assistance funds extended by the Department of Energy. Facilities of the Applicant (including the physical plants, buildings, or other structures) and all records, books, accounts, and other sources of information pertinent to the Applicant's compliance with the civil rights laws shall be made available for inspection during normal business hours on request of an officer or employee of the Department of Energy specifically authorized to make such inspections. Instructions in this regard will be provided by the Director, Office of Equal Opportunity, U.S. Department of Energy.

This assurance is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts (excluding procurement contracts), property, discounts or other Federal assistance extended after the date hereto, to the Applicants by the Department of Energy, including installment payments on account after such date of application for Federal assistance which are approved before such date. The Applicant recognizes and agrees that such Federal assistance will be extended in reliance upon the representations and agreements made in this assurance and the the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Applicant, its successors, transferees, and assignees, as well as the person whose signature appears below and who is authorized to sign this assurance on behalf of the Applicant.

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Name of Applicant)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Authorized Official)

( )

\_\_\_\_\_  
(Applicant's Telephone Number)

**APPENDIX G**

**COST PROPOSAL FORMAT (SF-1411)  
AND EXHIBITS**

## INSTRUCTIONS FOR SUBMISSION OF A CONTRACT PRICING PROPOSAL

1. The SF 1411 provides a vehicle for the offeror to submit to the Government a pricing proposal of estimated costs with supporting information, adequately cross-referenced, suitable for detailed analysis. The proposer will submit a cost-element breakdown, using the attached format ("pricing proposal summary") for each phase. Supporting data must be furnished for each cost element, consistent with the proposer's cost accounting system. Separate summary totals covering each phase of the project must be furnished. If agreement(s) has been reached with Government representatives on use of forward pricing rates/factors, identify the agreement, include a copy, and describe its nature. Depending on the proposer's system, breakdowns shall be provided, using the "pricing proposal summary" format, for the following basic elements of cost, as applicable:

Materials - Provide a consolidated price summary of individual material quantities included in the various tasks, orders, or contract line items being proposed and the basis for pricing (vendor quotes, invoice prices, etc.).

Subcontracted Items - Include parts, components, assemblies, and services that are to be produced or performed by others in accordance with offeror's design, specifications, or direction and that are applicable only to the prime contract. For each subcontract over \$500,000, the support should provide a listing by source, item,

quantity, price, type of subcontract, degree of competition, and basis for establishing source and reasonableness of price, as well as the results of review and evaluation of subcontract proposals when required by FAR 15.806.

**Standard Commercial Items** - Consists of items that offeror normally fabricates, in whole or in part, and that are generally stocked in inventory. Provide an appropriate explanation of the basis for pricing. If price is based on cost, provide a cost breakdown; if priced at other than cost, provide justification for exemption from submission of cost or pricing data, as required by FAR 15.804-3(e).

**Interorganizational Transfer (at other than cost)** - Explain pricing method used. (See FAR 31.205-26).

**Raw Material** - Consists of materials in a form or state that requires further processing. Provide priced quantities of items required for the proposal.

**Purchased Parts** - Includes material items not covered above. Provide priced quantities of items required for the proposal.

**Interorganizational Transfer (at cost)** - Include separate breakdown of cost by element.

**Direct Labor** - Provide a time-phased (e.g., monthly, quarterly, etc.) breakdown of labor hours, rates and cost by appropriate category, and furnish bases for estimates.

**Indirect Costs** - Indicate how offeror has computed and applied offeror's indirect costs, including cost breakdowns, and showing trends and budgetary data, to provide a basis for evaluating the reasonableness of proposed rates. Indicate the rates used and provide an appropriate explanation.

**Other Costs** - List all other costs not otherwise included in the categories described above (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework, and Federal excise tax on finished articles) and provide bases for pricing.

**Royalties** - If more than \$250, provide the following information on a separate page for each separate royalty or license fee: name and address of licensor; date of license agreement; patent numbers, patent application serial numbers, or other basis on which the royalty is payable; brief description (including any part or model number of each contract item or component on which the royalty is payable) percentage or dollar rate of royalty per unit price of contract item; number of units; and total dollar amount of royalties. In addition, if specifically requested by the contracting officer, provide copy of the current license agreement and identification of applicable claims of specific patents (See FAR 27.204 and 31.205-37).

Facilities Capital Cost of Money - When the offeror elects to claim facilities capital cost of money as an allowable cost, the offeror must submit Form CASB-CMF and show the calculation of the proposed amount (see FAR 31.205-10).

2. As part of the specific information required, the proposer must submit with the proposal, and clearly identify as such, cost or pricing data as defined at FAR 15.801. In addition, submit with the proposal any information which helps explain the proposer's estimating process including:
  - a. The judgmental factors applied and the mathematical or other methods used in the estimate, including those used in projecting from known data; and
  - b. The nature and amount of any contingencies included in the proposed price.
3. There is a clear distinction between submitting cost or pricing data and merely making available books, records, and other documents without identification. The requirement for submission of cost or pricing data is met when all accurate cost or pricing data reasonably available to the offeror have been submitted, either actually or by specific identification, to the contracting officer or an authorized representative. As later information comes into the proposer's possession, it should be promptly submitted to the contracting officer. The requirement for submission of cost or pricing data continues up to the time of final agreement on price.

4. The proposer must include an index, appropriately referenced, for all cost or pricing data and information accompanying or identified in the proposal. In addition, any future additions and/or revisions, up to the date of agreement on price, must be annotated on a supplemental index.
5. By submitting the proposal, the proposer, if selected for negotiations, grants the contracting officer or an authorized representative the right to examine those books, records, documents, and other supporting data that will permit adequate evaluation of the proposed price. This right may be exercised at any time before award.
6. As soon as practicable after final agreement on price, but before the award resulting from the proposal, the proposer shall, under the conditions stated in FAR 15.804-4 submit a Certificate of Current Cost or Pricing Data.



## EXHIBIT A

CONTRACT PRICING PROPOSAL COVER SHEET		1. SOLICITATION/CONTRACT MODIFICATION NO.		FORM APPROVED OMB NO. 3090-0116	
NOTE: This form is used in contract actions if submission of cost or pricing data is required. (See FAR 15.804-6(b))					
2. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)		3A. NAME AND TITLE OF OFFEROR'S POINT OF CONTACT		3B. TELEPHONE NO.	
4. TYPE OF CONTRACT ACTION (Check)					
<input type="checkbox"/> A NEW CONTRACT		<input type="checkbox"/> D. LETTER CONTRACT			
<input type="checkbox"/> B. CHANGE ORDER		<input type="checkbox"/> E. UNPRICED ORDER			
<input type="checkbox"/> C. PRICE REVISION/REDETERMINATION		<input type="checkbox"/> F. OTHER (Specify)			
5. TYPE OF CONTRACT (Check)		6. PROPOSED COST (A+B=C)			
<input type="checkbox"/> FFP <input type="checkbox"/> CPFF <input type="checkbox"/> CPIF <input type="checkbox"/> CPAF <input type="checkbox"/> FPI <input type="checkbox"/> OTHER (Specify)		A. COST		B. PROFIT/FEE	
		\$		\$	
7. PLACE(S) AND PERIOD(S) OF PERFORMANCE				C. TOTAL	
				\$	
8. List and reference the identification, quantity and total price proposed for each contract line item. A line item cost breakdown supporting this record is required unless otherwise specified by the Contracting Officer. (Continue on reverse, and then on plain paper, if necessary. Use same headings.)					
A. LINE ITEM NO.	B. IDENTIFICATION	C. QUANTITY	D. TOTAL PRICE	E. REF.	
9. PROVIDE NAME, ADDRESS, AND TELEPHONE NUMBER FOR THE FOLLOWING (If available)					
A. CONTRACT ADMINISTRATION OFFICE			B. AUDIT OFFICE		
10. WILL YOU REQUIRE THE USE OF ANY GOVERNMENT PROPERTY IN THE PERFORMANCE OF THIS WORK? (If "Yes," identify)			11A. DO YOU REQUIRE GOVERNMENT CONTRACT FINANCING TO PERFORM THIS PROPOSED CONTRACT? (If "Yes," complete item 11B)		11B. TYPE OF FINANCING (If one)
<input type="checkbox"/> YES <input type="checkbox"/> NO			<input type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> ADVANCE PAYMENTS <input type="checkbox"/> PROGRESS PAYMENTS <input type="checkbox"/> GUARANTEED LOANS
12. HAVE YOU BEEN AWARDED ANY CONTRACTS OR SUBCONTRACTS FOR THE SAME OR SIMILAR ITEMS WITHIN THE PAST 3 YEARS? (If "Yes," identify item(s), customer(s) and contract number(s))			13. IS THIS PROPOSAL CONSISTENT WITH YOUR ESTABLISHED ESTIMATING AND ACCOUNTING PRACTICES AND PROCEDURES AND FAR PART 31 COST PRINCIPLES? (If "No," explain)		
<input type="checkbox"/> YES <input type="checkbox"/> NO			<input type="checkbox"/> YES <input type="checkbox"/> NO		
14. COST ACCOUNTING STANDARDS BOARD (CASB) DATA (Public Law 91-379 as amended and FAR PART 30)					
A. WILL THIS CONTRACT ACTION BE SUBJECT TO CASB REGULATIONS? (If "No," explain in proposal)			B. HAVE YOU SUBMITTED A CASB DISCLOSURE STATEMENT (CASB DS-1 or 2)? (If "Yes," specify in proposal the office to which submitted and if determined to be adequate)		
<input type="checkbox"/> YES <input type="checkbox"/> NO			<input type="checkbox"/> YES <input type="checkbox"/> NO		
C. HAVE YOU BEEN NOTIFIED THAT YOU ARE OR MAY BE IN NON-COMPLIANCE WITH YOUR DISCLOSURE STATEMENT OR COST ACCOUNTING STANDARDS? (If "Yes," explain in proposal)			D. IS ANY ASPECT OF THIS PROPOSAL INCONSISTENT WITH YOUR DISCLOSED PRACTICES OR APPLICABLE COST ACCOUNTING STANDARDS? (If "Yes," explain in proposal)		
<input type="checkbox"/> YES <input type="checkbox"/> NO			<input type="checkbox"/> YES <input type="checkbox"/> NO		
This proposal is submitted in response to the RFP contract, modification, etc. in item 1 and reflects our best estimates and/or actual costs as of this date.					
15. NAME AND TITLE (Type)			16. NAME OF FIRM		
17. SIGNATURE				18. DATE OF SUBMISSION	

# PRICING PROPOSAL SUMMARY

OFFEROR:

DATE:

MATERIAL INTERDIV TRANSFERS OTHER				EST COST	REFERENCE
TOTAL MATERIAL					
MATERIAL OVERHEAD	% RATE	BASE			
DIRECT LABOR TOTAL LABOR HOURS AND COST		HOURS			
LABOR OVERHEAD	% RATE	BASE			
TOTAL LABOR O/H					
SPECIAL TESTING AND SPECIAL EQUIPMENT					
TRAVEL					
SUBCONTRACTS					
TOTAL SUBCONTRACTS					
CONSULTANTS					
TOTAL CONSULTANTS					
OTHER DIRECT COSTS					
TOTAL OTHER DIRECT COSTS					
SUBTOTAL					
G&A	% RATE	BASE			
TOTAL EST. COST EXCLUDING IN-KIND CONTRIBUTIONS					
IN-KIND CONTRIBUTION (from Exhibit F)					
TOTAL PROPOSED COST					

**EXHIBIT B**  
**SUMMARY OF ESCALATION FACTORS**

CATEGORY/ELEMENT	FACTORS BY OFFEROR FISCAL YEAR						
	198X	198X	198X	198X	198X	---	199X
e.g.							
MATERIAL TYPE	X.X%	X.X%	X.X%	X.X%	X.X%	---	X.X%
LABOR TYPE	X.X%	X.X%	X.X%	X.X%	X.X%	---	X.X%
OTHER TYPE	X.X%	X.X%	X.X%	X.X%	X.X%	---	X.X%

**JUSTIFICATION/RATIONAL**

**MATERIAL - THE FACTORS ARE BASED ON (NAME) PROJECTION/REPORT AS DETAILED IN THEIR REPORT OF (DATE). COPIES ARE INCLUDED UNDER TAB X PAGE X OF THE COST PROPOSAL.**

**LABOR - \_\_\_\_\_ SIMILAR TYPE OF WORDS, REPORTS, REFERENCES ETC.  
ETC. - \_\_\_\_\_**

**(Note to offerors: This format may be modified to fit the offeror's circumstances as long as the requested data is provided in a logical format).**

Proposing Entity \_\_\_\_\_

Exhibit C  
Page 1 of 3

FRINGE BENEFIT EXPENSE SCHEDULE

(Examples:)

	Previous two Fiscal Years (Actuals)*		Current. Fiscal Yr.	Projected FY's**
Sick Leave	\$ _____	\$ _____	\$ _____	\$ _____
Holiday				
Vacation				
Administrative Leave				
Compensation				
Insurance				
Unemployment				
Insurance				
FICA Tax				
Group Insurance				
Training				
Educational Aid				
Employee Pension				
Employee Morale				
Other				
Total Expenses	\$ _____	\$ _____	\$ _____	\$ _____
Base of Distribution (Identify)	\$ _____	\$ _____	\$ _____	\$ _____
Expense Rate	%	%	%	%

\* Fiscal year ending \_\_\_\_\_.

\*\* Furnish the basis for the projected costs, with the reasons for the variances between the actuals experienced and the projections.

Provide a column of data for each projected Fiscal Year (beyond the current Fiscal Year) for the expected period of project demonstration.

Proposing Entity \_\_\_\_\_

Exhibit C  
Page 2 of

### OVERHEAD EXPENSE SCHEDULE

(Examples:)	Previous two Fiscal Years	Current	Projected
Salaries and Wages:	(Actuals)*	Fiscal Yr.	FY's**
Indirect Labor	\$	\$	\$
Other Compensation			
Overtime Premium			
Sick Leave			
Holiday			
Vacation			
Severance			
Etc.			
Personnel Expenses:			
Compensation			
Insurance			
Unemployment			
Insurance			
FICA Tax			
Group Insurance			
Travel Expense			
Recruiting			
Training			
Employee Pension			
Etc.			
Bid and Proposal			
Supplies and Services:			
General Operating			
Office and Printing			
Utilities			
Etc.			
Fixed Charges:			
Depreciation			
Equipment Rentals			
Etc.			
Total Expenses	\$ _____	\$ _____	\$ _____
Base of Distribution	\$ _____	\$ _____	\$ _____
(Identify)	_____	_____	_____
Overhead Expense Rate	%	%	%

\* Fiscal year ending \_\_\_\_\_.

\*\* Furnish the basis for the projected costs, with the reasons for the variances between the actuals experienced and the projections.

Provide a column of data for each projected Fiscal Year (beyond the current Fiscal Year) for the expected period of project demonstration.

Proposing Entity \_\_\_\_\_

Exhibit C  
Page 3 of 3

**GENERAL & ADMINISTRATIVE EXPENSE SCHEDULE**

(Examples:)

**Salaries and Wages:**

Indirect Labor  
Other Compensation  
Overtime Premium  
Sick Leave  
Holiday  
Vacation  
Severance  
Etc.

Previous two Fiscal Years  
(Actuals)\*

Current  
Fiscal Yr.

Projected  
FY's\*\*

\$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_

**Personnel Expenses:**

Compensation  
Insurance  
Unemployment  
Insurance  
FICA Tax  
Group Insurance  
Travel Expense  
Recruiting  
Training  
Employee Pension  
Etc.

**Bid and Proposal**

**Supplies and Services:**

General Operating  
Office and Printing  
Utilities  
Etc.

**Fixed Charges:**

Depreciation  
Equipment Rentals  
Etc.

**Total Expenses**

\$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_

**Base of Distribution  
(Identify)**

\$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_  
\_\_\_\_\_

**G&A Expense Rate**

% % % %

\* Fiscal year ending \_\_\_\_\_.

\*\* Furnish the basis for the projected costs, with the reasons for the variances between the actuals experienced and the projections.

Provide a column of data for each projected Fiscal Year (beyond the current Fiscal Year) for the expected period of project demonstration.



## EXHIBIT E

(This exhibit uses the WBS developed for the technical proposal as a basis for development of the project's costs estimate. The following is the format to be used for the various Phases of the project. Each Phase should be prepared separately to Task Level 3, in turn.)

### SUMMARY FOR EXHIBIT E

1.0	TOTAL PROJECT COST	amount
1.1	PHASE ONE COST	amount
1.1.1	Task 1 Cost	amount
1.1.2	Task 2 Cost	amount
1.1.3	Task 3 Cost	amount
	(etc.)	
1.2	PHASE TWO COST	amount
	(etc.)	

(For this summary the task amounts should total the Phase amounts and the Phase amounts should total to the Project Cost. Costs which are not a part of a lower level's estimated cost should be identified and estimated in detail at the next higher task level. The Phase and Project totals from this Exhibit should equal the totals for the Phases and the Project in Exhibit A).

### PHASE

(Identify the Phase being estimated)



**WBS TASK**

(Identify the WBS task number (task and subtask level) and provide a short description of the task.)

**Cost Estimate**

(Develop by cost element detail (material, labor (hours, rates), overheads, other direct costs, etc.) the costs for this task. Use the Pricing Proposal Summary as the format for the costs.)

## EXHIBIT F

### COST SHARING ARRANGEMENT

#### Estimated Cost

The total estimated cost for this proposed project is \$\*\*\*\*\*.

#### Cost Sharing

The participant and the Government shares in the proposed costs of this project are as follows:

#### SUMMARY OF THE PROPOSED SHARE OF THE ACTUAL COST OF THE PROJECT

	DOLLAR SHARE	PERCENT SHARE
	(\$)	(%)
	_____	_____
PHASE ONE		
GOVERNMENT		
Participant		
Cash		
Contribution		
PHASE TWO		
GOVERNMENT		
Participant		
Cash		
Contribution		

**PHASE THREE****GOVERNMENT****Participant****Cash****Contribution****TOTAL PROJECT****GOVERNMENT****Participant****Cash****Contribution**

(The participant share of the total project cost is to be the sum of the participant's cash and in-kind contribution.)

**IDENTIFICATION AND SUPPORT FOR PARTICIPANT'S CASH AND IN-KIND CONTRIBUTIONS**

The participant is to provide the following information for all cash and in-kind contributions proposed for each project phase.

**Phase****(Phase 1, 2, or 3)****Type of Cost Share****(cash, or in-kind contributions)****Amount and Source of Cash Contribution**

(Actual whole dollar amount and source of funds (e.g., participant, third party, subcontractor, etc.)

For each in-kind contribution, the following additional information must be provided. The information must be verifiable from the participant's records. Provide the information requested which is appropriate for the type of in-kind contribution being proposed.)

**Source of In-Kind Contribution**

(Participant, subparticipant, third party, etc.)

**Description of In-Kind Contribution**

(Type (property, equipment, land etc.) of in-kind contribution and brief description of expected use.)

**Amount of Use**

(Provide the total amount of time the item is available for use and the estimated amount of time the item will be used on/for this project.)

**Proposed Value**

(State estimated value. The estimated value will be developed following the procedures in OMB Circular 102, Attachment F, Paragraph 5 for state or local government participants, or OMB Circular A-110, Attachment E, Paragraph 5 for all other participants.)

**Date of Acquisition and Acquisition Cost**

(Date when the item was originally purchased and original acquisition cost. Provide documentation to support original acquisition cost stated.)

**Depreciation Status**

(State if the item is fully depreciated or is currently being depreciated. For fully depreciated equipment or facilities provide evidence to show that it was continuously used during the entire Calendar Year 1984.)

**Depreciation Amount**

(Provide the yearly depreciation schedule and the years during which the depreciation took/takes place.)

APPENDIX H

UNIFORM REPORTING SYSTEM FOR  
FEDERAL ASSISTANCE

**U.S. Department of Energy**  
**Washington, D.C.**

**ORDER**

DOE 1332. 2

10-31-83

**SUBJECT: UNIFORM REPORTING SYSTEM FOR FEDERAL ASSISTANCE**  
**(GRANTS AND COOPERATIVE AGREEMENTS)**

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1. **PURPOSE.** To establish the Department of Energy (DOE) uniform reporting system for Federal assistance and provide implementing instructions, procedures, and formats to be used for all grants and cooperative agreements awarded by the Department.
2. **EXCLUSION.** Excluded from this reporting system are cooperative agreements associated with major system acquisitions as specified in DOE 5700.4, PROJECT MANAGEMENT SYSTEM, of 1-8-81, and the distribution of money managed under HQ 2100.1A, FINANCIAL MANAGEMENT OF MONEY RECEIVED FROM PERSONS WHO HAVE ALLEGEDLY VIOLATED DEPARTMENT OF ENERGY REGULATIONS, of 5-31-81, or any successor.
3. **APPLICABILITY.** This Order provides a compendium of standard forms, procedures, and terminology from which a program or project manager selects those applicable to a specific contractual effort. Reporting requested from contractors shall in all cases be limited to only that information essential for effective management control. Solicitations and awards comply with this Order by inclusion of a completed EIA 459-A, "Federal Assistance Reporting Checklist," with attachments. DOE organizations comply by execution with the requirements set forth in this Order.
  - a. Federal assistance solicitations (as defined on page 2, paragraph 11, of Attachment 1) issued after the publication of this Order shall comply with the requirements set forth in this Order. New grants and cooperative agreements awarded as a result of such Federal assistance solicitations shall also comply with the requirements set forth in this Order.
  - b. Awards of continuation grants and cooperative agreements awarded 90 or more days after the publication of this Order shall also comply with the requirements set forth in this Order.
  - c. For existing grants and cooperative agreements, the requirement will be determined by the cognizant Federal assistance program/project manager and the contracting officer. However, existing grants and cooperative agreements will not be affected by this Order unless the recipient so agrees.
4. **BACKGROUND.** This Order contains direction for DOE personnel on standardized application/proposal baseline plans and performance reports. Federal assistance preapplication and payment are not addressed. Information concerning preapplication and payment processes can be found in Federal circulars, DOE assistance regulations, or the program announcement.

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**DISTRIBUTION:**  
All Departmental Elements  
Federal Energy Regulatory Commission (info)

**INITIATED BY:**  
Office of Project and  
Facilities Management

## 5. REFERENCES.

- a. OMB Circular A-40, "Clearances of Public Reporting and Recordkeeping Requirements under the Federal Reports Act," of 5-3-73, as amended, which establishes policy and promulgates regulations to assure continuing effective management of Federal reporting requirements.
- b. OMB Circular A-102, "Uniform Administrative Requirements for Grants-In-Aid to State and Local Governments," of 9-12-77, as amended, which promulgates standards for establishing consistency and uniformity in the administration of grants to State, local, and Indian tribal governments.
- c. OMB Circular A-110, "Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations," of 7-30-76, as amended, which promulgates standards for obtaining consistency and uniformity in the administration of grants to, and other agreements with, public and private institutions of higher learning and hospitals, and other quasi-public and private nonprofit organizations.
- d. DOE 1340.1A, MANAGEMENT OF PUBLIC COMMUNICATIONS PUBLICATIONS AND SCIENTIFIC, TECHNICAL, AND ENGINEERING PUBLICATIONS. of 8-25-82, which prescribes policies, standards, and procedures for effective management of DOE publications.
- e. DOE 1430.1, MANAGING THE DEPARTMENT OF ENERGY'S SCIENTIFIC AND TECHNICAL INFORMATION, of 2-23-83, which defines DOE's responsibility for managing scientific and technical information developed in the Department's research and development programs.
- f. DOE 4600.1, FINANCIAL ASSISTANCE PROCEDURES MANUAL, of 6-10-82, which describes processes and procedures for administering financial assistance award and administration.
- g. DOE 5700.4, PROJECT MANAGEMENT SYSTEM, of 1-8-81, which provides detailed guidance and procedures on implementation of the project management system. It sets forth the principles and requirements which govern the development, approval, and execution of DOE's major system acquisitions and major projects.
- h. Title 5 U.S.C. 552(b)(4), "Freedom of Information Act," of 7-4-66, as amended, which exempts trade secrets and commercial or financial information which is privileged and confidential from public disclosure.
- i. Title 5 CFR 1320, "Controlling Paperwork Burdens on the Public," which serves as the implementing regulation for Public Law 96-511, "Paperwork Reduction Act of 1980," and directs the identification and clearance of information collections levied on the public, including contractors, State and local government units, and persons who perform services for the Department on an individual basis.
- j. Title 44 U.S.C., "Public Printing and Documents," of 10-22-68, which establishes laws related to public printing and documents, including Government Printing Office and other agency efforts, for both in-house and contract efforts.



- l. Title 10 CFR 600, "DOE Financial Assistance Rules," of 10-5-82, which codify, implement, and publish uniform assistance policies and selected procedures applicable to the award and administration of DOE grants and cooperative agreements.
- m. Title 41 CFR 101-11.11, "Federal Property Management Regulations," of 7-1-82, revised, which establishes an interagency reports management program, describes policies, and promulgates standards, procedures, and techniques for the economical and efficient management of records of Federal agencies.

6. POLICY AND OBJECTIVES.

- a. It is the Department's policy to acquire uniform, timely, and valid information on costs, schedules, and performance in order to effectively manage programs and projects, and to do so with the least possible burden on DOE and its recipients of Federal assistance awards.
- b. The objectives of the uniform reporting system for Federal assistance are to:
  - (1) Provide the tools for obtaining essential Federal assistance management information,
  - (2) Meet the information needs of several DOE organizations with a minimum number of reporting requirements;
  - (3) Establish uniform procedures, forms, and terminology for collecting and integrating the minimum data required by DOE to manage and monitor its Federal assistance awards;
  - (4) Consolidate and eliminate duplicate forms and requirements that now exist in the Department and overlap the information collection requirements of this Order; and
  - (5) Ensure that DOE managers choose only those uniform reporting system for Federal assistance plans and reports that are essential to the effective management and control of their activities.

7. RESPONSIBILITIES AND AUTHORITIES.

- a. Program Secretarial Officers and Managers of Operations Offices shall:
  - (1) Fully implement the provisions of this Order in their individual areas of responsibility;
  - (2) Appoint an action officer to coordinate the requirements of this Order and furnish the appointee's name to the Director of Project and Facilities Management (MA-22); and

- (3) Assure that all research and development grants and cooperative agreements promulgated or administered under their jurisdiction contain reporting requirement checklists indicating that all scientific and technical information deliverables must be promptly furnished to the Technical Information Center.

b. Program/Project Managers shall:

- (1) Become familiar with the intent and processes of this Order, and choose only those plans and reports that are essential to effective Federal assistance management;
- (2) Prepare a Form EIA-459A, "Federal Assistance Reporting Checklist," to accompany each PR-799A, "Procurement/Financial Assistance Request-Authorization," for each grant or cooperative agreement to be awarded and ensure recipient compliance with this Order; and
- (3) Review, evaluate, and utilize information obtained through plans and reports consistent with this Order for management of their activities.

c. The Assistant Secretary, Management and Administration shall, through the:

(1) Director of Procurement and Assistance Management.

- (a) Ensure that all Federal assistance solicitations contain reference to this Order's requirements.
- (b) Ensure that a clause for implementing this Order is in all Federal assistance award instruments and that the Form EIA-459A, "Federal Assistance Reporting Checklist," is included in the award document.
- (c) Ensure that requests for non-standard management reporting requirements are coordinated with the Director of Project and Facilities Management.
- (d) Aid in ensuring recipient compliance post award.

(2) Controller. Monitor financial status of grant and cooperative agreement awards and advise DOE participants as appropriate.

(3) Director of Administration, shall, through the:

(a) Director of Project and Facilities Management.

- 1 Coordinate the development and monitor implementation of this Order.
- 2 Provide, in coordination with the Director of Personnel, periodic training seminars to Departmental organizations in the implementation of this Order.

- 3 Review and approve for implementation all non-standard management reporting requirements forwarded by the Director of Procurement and Assistance Management.
  - 4 Implement the information collection and clearance requirements contained in Title 5 CFR 1320 as they apply to contractors, their employees, and other members of the public from whom information is collected under the provisions of this directive.
- (b) Director of Personnel. Provide for the inclusion of training on the requirements of this Order in Departmentwide training programs, as appropriate.
- (c) Manager of the Technical Information Center. Develop policies and procedures for managing the Department's scientific and technical information program including the development of procedures and systems needed for assuring the acquisition and receipt of adequate and acceptable scientific and technical information from the uniform reporting system for federal assistance.
- d. Contracting Officers (Awarding Officers) shall:
- (1) Ensure that all Federal assistance solicitations contain reference to this Order's requirements.
  - (2) Ensure that a clause for implementing this Order is in all Federal assistance awards.
  - (3) Review, evaluate, and utilize information obtained through plans and reports consistent with this Order for management of their activities.

BY ORDER OF THE SECRETARY OF ENERGY:



WILLIAM S. HEFFELFINGER  
Director of Administration

### DEFINITIONS

1. ACCRUAL BASIS OF ACCOUNTING. Recognizes revenues in the period earned and recognizes cost in the period incurred, regardless of when payment is received or made. (DOE 2100.1A, GLOSSARY OF FINANCIAL TERMS, of 10-23-81.)
2. ACCRUED COST. Accrued cost is the value (purchase price) of goods and services used or consumed within a given period of time, regardless of when ordered, received, or paid for.
3. ACCRUED EXPENDITURES. Accrued expenditures are the charges incurred by the recipient during a given period requiring the provision of funds for: goods and other tangible property received; services performed by employees, contractors, subgrantees, and other payees; and other amounts becoming owed under programs for which no current services or performance is required such as annuities, insurance claims, and other benefit payments. (OMB Circulars A-102 and A-110.)
4. ACTIVITY. An effort or operation which is conducted over a period of time and results in the accomplishment of a unit of work.
5. APPLIED COST. The value (purchase price) of goods and services used, consumed, given away, lost, or destroyed within a given period of time, regardless of when ordered, received, or paid for. For operating programs, applied cost represents the value of resources consumed or used. For procurement and manufacturing programs, applied cost represents the value of material received or produced. For capital outlay programs, applied cost represents the value of work put in place. For loan activities, applied cost represents assets acquired (even though no resource has been consumed). In the case of appropriations for programs that are essentially operating in nature, equipment is included in applied cost when it is placed in use. For all programs, accrued annual leave is included in applied cost when the leave is earned rather than when taken, even though it may be unfunded at the time; and, depreciation cost and other unfunded costs are included where appropriate. (DOE 2100.1A.)
6. BASELINE. A quantitative expression of projected costs, schedule, or technical progress to serve as a base or standard for measurement during the performance of an effort; the established plan against which the status of resources and the progress of a project can be measured.
7. BUDGET PERIOD. The interval of time, specified in the award, into which a project is divided for budgeting and funding purposes. (10 CFR 600.)
8. CEILING. The negotiated or stated limit applicable to obligations and costs which are set by legislation or arrangement and cannot be exceeded. (DOE 2100.1A.)

9. COST VARIANCE. The difference between the planned cost and the actual cost for work performed. It indicates whether costs are being accrued as planned. On the "Federal Assistance Program/Project Status Report," the cost variance is the difference between planned and actual costs for a specified period of time.
10. DIRECT COST. For the purpose of this Order, direct cost means any cost that can be specifically identified with a particular project or activity, including salaries, travel, equipment, and supplies directly benefitting the project or activity. (10 CFR 600.)
11. FEDERAL ASSISTANCE SOLICITATION. A solicitation is a formal written invitation by DOE for interested organizations or individuals to submit applications for a specified project, effort or objective, by a stated common due date. As used in this Order it includes the following:
  - a. Program regulation;
  - b. Program solicitation;
  - c. Solicitation for cooperative agreement proposals;
  - d. Program opportunity notice;
  - e. Program research and development announcement; and
  - f. Notice of program interest.
12. INDIRECT COST. Indirect costs are those incurred for a common or joint purpose benefiting more than one cost objective, and not readily assignable to the cost objectives specifically benefited, without effort disproportionate to the results achieved. (OMB Circular A-87.)
13. INTERMEDIATE EVENTS. Detailed events which are necessary for and lead to the completion of a milestone. An intermediate event signals completion of a subtask crucial to the milestone effort.
14. MILESTONE. An important or critical event that must occur in order to achieve the project objective(s).
15. OBJECTIVE. A general, comprehensive statement of a desired end. From this statement specific goals can be generated.
16. PROGRAM. An organized set of activities directed toward a common purpose, objective, or goal undertaken or proposed by DOE in order to carry out responsibilities assigned to it. It is characterized by a plan of action designed to accomplish a definite objective.

17. PROGRAM/PROJECT MANAGER. An official in the program division or field organization who has been assigned responsibility for accomplishing a specific set of program objectives. This involves planning, directing, and controlling one or more assistance activities, initiation of any award processes necessary to get assistance activities started, and monitoring of assistance activities.
18. PROJECT. For the purpose of this Order a project means the set of activities described in an application, State plan, or other document that is approved by DOE for financial assistance (whether such financial assistance represents all or only a portion of the support necessary to carry out those activities). (10 CFR 600.)
19. RECIPIENT. An inclusive term for all agencies, governments, other organizations, and individuals receiving Federal assistance in the form of grants or cooperative agreements from DOE.
20. TASK. Any definable unit of work. It must have an identifiable start and ending and usually produces some recognizable result.
21. WORK BREAKDOWN STRUCTURE (WBS). A product oriented task hierarchy of all work to be performed in accomplishing project objectives. The product(s) may be hardware, software, support services, tests, documentation, or other quantified elements of the project objectives. The task hierarchy has, as its first level, the major end item of the project. The successive levels provide increasingly detailed definition of the individual work tasks that contribute to the production of end items. The scope and number of levels in the task hierarchy depend on the scope and complexity of the individual project.
22. WORK BREAKDOWN STRUCTURE ELEMENT. Any of the individual items or entries in the WBS hierarchy, regardless of level.

## TABLE OF CONTENTS

	<u>Page</u>
<u>CHAPTER I - INTRODUCTION</u>	
1. System Features.....	I-1
a. Standard Forms and Procedures.....	I-1
b. Standard Definitions.....	I-1
c. Specification of Reporting Requirements.....	I-1
d. Planning Baselines.....	I-1
e. Flexible Reporting Methods and Applications.....	I-1
f. Single Reporting for Multiple Uses.....	I-1
g. Formal Problem Identification.....	I-1
2. How the Uniform Reporting System Works.....	I-1
Figure I-1 Relationship of System Components.....	I-2
3. Key Definitions.....	I-4
a. Federal Assistance.....	I-4
b. Grant.....	I-4
c. Cooperative Agreement.....	I-4
4. Directing Application.....	I-4
5. Application.....	I-5
6. Forms.....	I-5
a. Baseline Plans.....	I-5
b. Status Reports.....	I-5
c. Technical Information Reports.....	I-6
7. Other Information.....	I-6
a. Confidentiality Statement.....	I-6
b. Government Printing Regulations.....	I-7
c. Applicability to Other Government Agencies.....	I-7
d. Paperwork Reduction Act.....	I-7
e. Forms Supplies.....	I-7
<u>CHAPTER II - PROGRAM MANAGEMENT REPORTING</u>	
1. How to Select Plans and Reports.....	II-1
a. General.....	II-1
b. When Reports are Due.....	II-1
Figure II-1 Frequency Codes for Submittal of Reports.....	II-2
c. Distribution of Reports.....	II-2
d. Selection Guides for Baseline Plans and Reports.....	II-3
e. Preparing the Federal Assistance Solicitation to Include Reporting Requirements.....	II-3
Figure II-2 Selection Guides for Plans and Reports.....	II-4
f. Preparation of the Federal Assistance Reporting Checklist.....	II-5
Figure II-3 Example Federal Assistance Reporting Checklist.....	II-6
Figure II-4 Example Attachment to Federal Assistance Reporting Checklist.....	II-8

2. How to Prepare Plans and Reports.....	II-5
a. General.....	II-5
b. Structuring of Reporting Elements.....	II-8
Figure II-5 Example Work Breakdown Structure.....	II-10
c. Federal Assistance Milestone Plan (Form EIA-4598).....	II-11
d. Federal Assistance Budget Information Forms (EIA-459C and EIA-459D).....	II-12
Figure II-6 Example Federal Assistance Milestone Plan.....	II-12
Figure II-7 Example Milestone Log.....	II-19
e. Federal Assistance Management Summary Report (Form EIA-459E) as a Baseline Plan.....	II-16
Figure II-8 Example Federal Assistance Budget Information Form (Non-Construction).....	II-17
Figure II-9 Example Federal Assistance Budget Information Form (Construction).....	II-19
Figure II-10 Example Federal Assistance Management Summary Report as a Baseline Plan.....	II-23
f. Federal Assistance Program/Project Status Report (Form EIA-459F). Figure II-11 Example Federal Assistance Program/ Project Status Report.....	II-25
g. Financial Status Report (Standard Form 269).....	II-28
h. Federal Assistance Management Summary Report (Form EIA-459E) as a Status Report.....	II-29
Figure II-12 Example Financial Status Report.....	II-30
Figure II-13 Example Federal Assistance Management Summary Report as a Status Report.....	II-33
Attachment II-1 - Research Project Example.....	II-35
Attachment II-2 - Suggested Federal Assistance Solicitation Description of the Uniform Reporting System for Federal Assistance.....	II-45

### CHAPTER III-TECHNICAL INFORMATION REPORTING

1. General.....	III-1
2. Selection of Technical Reports.....	III-2
Figure III-1 Frequency and Distribution of Technical Reports.....	III-3



## CHAPTER I

### INTRODUCTION

#### 1. SYSTEM FEATURES. Primary features are:

- a. Standard Forms and Procedures. Replaces differing reporting forms and procedures previously used by DOE component organizations.
- b. Standard Definitions. Provides uniform terminology and data elements to minimize ambiguity of meaning and intent.
- c. Specification of Reporting Requirements. Provides a checklist to be used to identify all reporting requirements at the time of award. The recipient is encouraged to discuss the requirements before the time of award in order to ensure that they are appropriate.
- d. Planning Baselines. Provides planning forms which can be included in the Federal assistance application or proposal to present the planned approach and desired results.
- e. Flexible Reporting Methods and Application. Provides flexibility in application to ensure that the information requested is relevant to the activity performed. The reporting system can accommodate a variety of programs and assistance awards by tailoring the reporting requirements to fit the activity.
- f. Single Reporting for Multiple Uses. A recipient of Federal assistance submits standard forms only once in each reporting period. One submission serves all Departmental needs.
- g. Formal Problem Identification. Provides recipients with a formal method for identifying problems.

#### 2. HOW THE UNIFORM REPORTING SYSTEM WORKS.

- a. This Order contains the plans and reports of the system. Figure I-1 shows the general relationship of the various system components. To illustrate the utility of the plans and reports, a hypothetical project (partially funded by DOE under a cooperative agreement) using all the program management forms is presented in Chapter II. Chapter III covers technical information reporting requirements. DOE 1430.1 describes the scientific and technical reporting requirements and procedures for a research grant. The DOE Technical Information Center (TIC) will provide further guidance.
- b. Before a Federal assistance solicitation is issued, the DOE program manager determines the information that will be required from the assistance recipient. The information needs of other DOE offices, such as Controller and the awarding office, also should be considered.

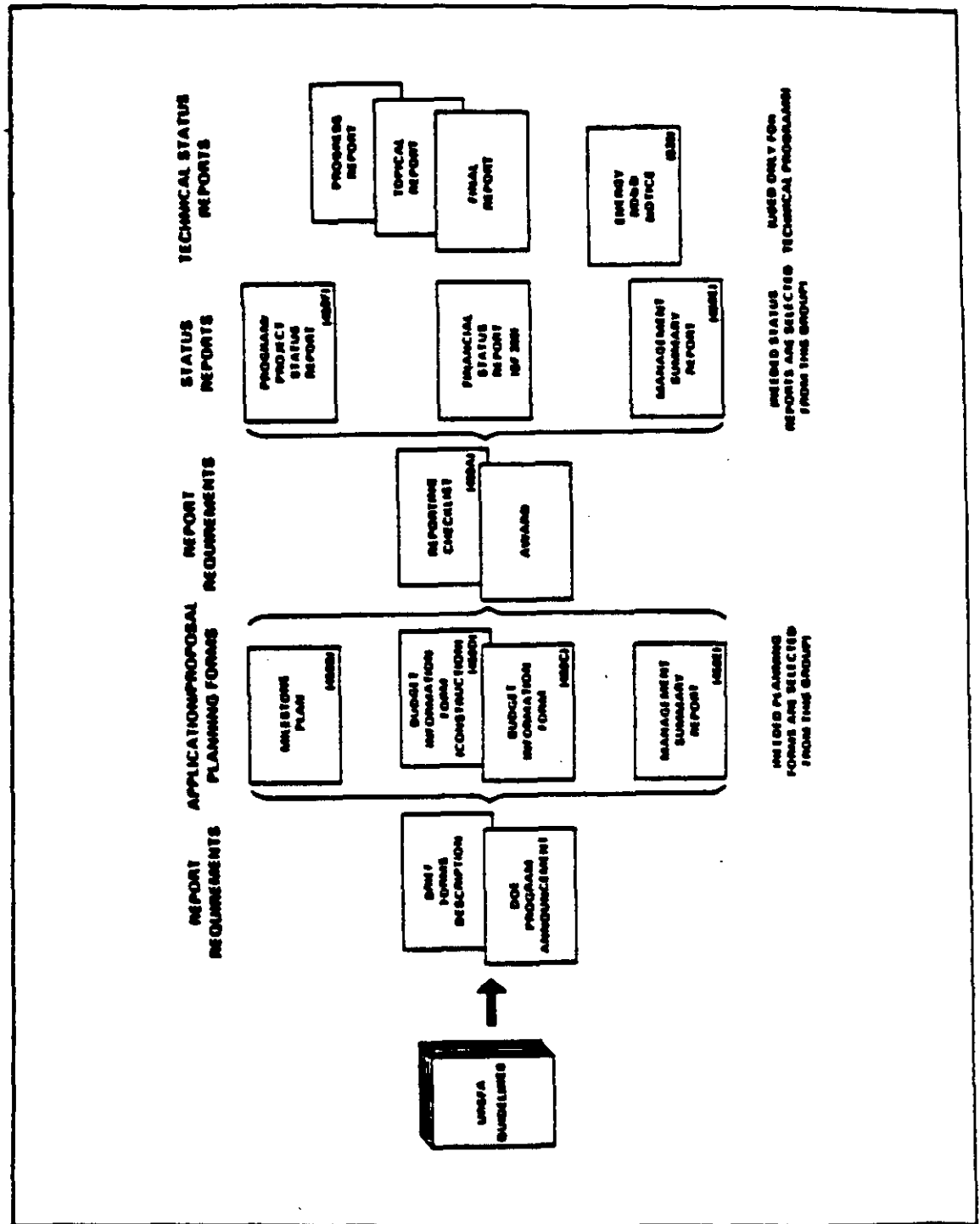


Figure I-1  
Relationship of System Components

- (1) Tables which appear in Chapter II have been developed to indicate those plans and reports which are usually appropriate for different types of activities.
  - (2) Baseline plans shown in this Order can be selected and included as part of the application/proposal for programs which require measurable program performance.
  - (3) The planning technique provided for in this Order is based on the concept of prescribing specific, quantifiable, and measurable baseline information. The information presented in the baseline plans is used to augment the narrative, which is usually included in applications and proposals, and to provide a means of evaluating performance. All DOE assistance activities may not require detailed baseline information. A basic research project, for example, may rely on the content of technical information reports for performance evaluation.
  - (4) The status reports and technical reports, which will be required subsequent to award, will be identified in the solicitation. This will allow the applicant/proposer to include reporting costs in the application/proposal.
- c. The application/proposal, containing the required plans selected from this Order, is submitted in accordance with the solicitation. These plans will serve as the base against which progress can be measured.
  - d. The "Federal Assistance Reporting Checklist" is prepared by the DOE program manager and is included as an attachment to the DOE Form 4600.1, "Notice of Financial Assistance Award". The completed checklist indicates the reporting requirements, identifying which, if any, baseline plans should be resubmitted, which other reports are needed, how often they should be submitted, and to whom they should be sent. Any special reporting requirements specified in program legislation, Federal regulations, or the DOE assistance regulations will be identified on the checklist. Alternative forms or formats or alternative data elements that are natural products of the recipient's internal management system may be considered. The recipient's application should include a discussion of any proposed substitutions or changes in the reporting requirements and how the proposed substitution or change meets this Order's report requirements. These proposals shall be coordinated with the Office of Project and Facilities Management prior to award.
  - e. Financial status reports and program status reports relate directly to the baseline plans and show the financial or schedule status of the activity as well as identifying cost or schedule problems. Standard Form 269, "Financial Status Reports," must generally be submitted (see Footnote 1, Figure II-2, for exceptions); program status reports may be required depending on the nature of the activity.

- f. Technical reports are the basis for the technical performance evaluation by the Department's program managers and the primary method by which the Department makes its scientific and technical results available to contractors and others participating in the program, including the public.
  - g. In accordance with Departmental policy, no reporting requirements (information collections) will be levied by the Department on contractors or other elements of the "public" as defined in Title 5 CFR 1320 unless they have prior clearance under the provisions of Title 5 CFR 1320, and the OMB clearance number (or exemption statement) is shown on the reporting requirement document and related forms.
3. KEY DEFINITIONS. See Attachment 1 for additional definitions.
- a. Federal Assistance. Federal assistance is the transfer of money, property, services, or anything of value to a recipient in order to accomplish a public purpose of support or stimulation authorized by Federal statute, rather than acquisition, by purchase, lease, or barter, of property or services for the direct benefit of the Federal Government. Grants and cooperative agreements are Federal assistance mechanisms. Federal assistance is separate and distinct from Federal procurement, which is governed by different rules and regulations.
  - b. Grant. The transfer of money, property, services, or anything of value to the State or local government or other recipient in order to accomplish a public purpose of support or stimulation authorized by Federal statute, rather than acquisition, by purchase, lease, or barter, of property or services for the direct benefit or use of the Federal Government, and where no substantial involvement is anticipated between the executive Agency, acting for the Federal Government, and the State or local government or other recipient during the performance of the contemplated activity.
  - c. Cooperative Agreement. The instrument used to transfer money, property, services, or anything of value to the State and local government or other recipient to accomplish a public purpose of support or stimulation authorized by Federal statute, rather than acquisition, by purchase, lease or barter, of property or services for the direct benefit or use of the Federal Government, where substantial involvement is anticipated between the executive Agency, acting for the Federal Government, and the State or local government or other recipient during performance of the contemplated activity.
4. DIRECTING APPLICATION. The following is a sample clause which the DOE awarding officer can use in the grant or cooperative agreement to invoke the requirements of this Order.

"The Federal assistance recipient shall prepare and submit (postage prepaid) the plans and reports indicated on the 'Federal Assistance Reporting Checklist' to the addressees and in the number of copies designated on the checklist. Preparation of the specified plans and reports shall be in accordance with the DOE uniform reporting system for Federal assistance. The level of detail the recipient provides in the plans and reports shall be commensurate with the scope and complexity of the task and shall be as delineated in Block 4 (Reporting Requirements) and Block 5 (Special Instructions). The prime recipient shall be responsible for acquiring data from any contractors, or subrecipients, to ensure that data submitted are compatible with the data elements which prime recipients submit to DOE. Plans and reports submitted in compliance with this provision are in addition to any other reporting requirements of the Federal assistance instrument."

5. APPLICATION. These instructions apply to DOE grants and cooperative agreements with State and local governments, nonprofit organizations, institutions of higher education, hospitals, individuals, profit-making organizations, and any other eligible assistance recipients.
6. FORMS. There are three categories of forms: baseline plans; status reports; and technical information reports. The "Federal Assistance Reporting Checklist," contained in each award, is used to identify which will be required for that particular effort. A brief description of the forms follows. More discussion of the baseline plans and reports is included in Chapters II and III.
  - a. Baseline Plans. This Order offers simple planning procedures and forms to augment the narrative project description contained in the application/proposal. Discrete, measurable units of the proposed work are presented in the baseline plans. The baseline plans provide a specific outline of what the assistance recipient intends to do, how it is intended to be accomplished, and the time and cost involved. These baseline plans are developed and submitted with the application/proposal to serve as the standard against which status and progress can be measured during the performance period. The following are baseline planning forms.
    - (1) Form EIA-459B, "The Federal Assistance Milestone Plan," and an accompanying milestone log present a schedule of the planned activity, with major milestones and intermediate events identified.
    - (2) Forms EIA-459C and D (construction or nonconstruction), "The Federal Assistance Budget Information Form," presents the planned costs.
    - (3) Form EIA-459E, "The Federal Assistance Management Summary Report," presents the planned costs and the planned schedule together in a capsulized format.

- b. Status Reports. Provide the performance information required to determine program effectiveness and the information which DOE requires to maintain accountability for public funds. The reports are submitted according to the frequency indicated by the DOE program manager on the "Federal Assistance Reporting Checklist." The reports show actual costs, schedule progress, and total project status to date. When the status reports are compared with the baseline plans, accomplishments can be noted, problems become apparent, and corrective action can be taken. The following are status reports:
- (1) OMB Standard Form 269, "The Financial Status Report," presents funds status information.
  - (2) Form EIA-459E, "The Federal Assistance Management Summary Report," relates planned progress and costs to actual progress and costs in a capsulized format.
  - (3) Form EIA-459F, "The Federal Assistance Program/Project Status Report," presents a brief narrative description of accomplishments, problems, progress, and forecasts.
- c. Technical Information Reports. Scientific and technical information is communicable knowledge or information (unlimited, limited, and classified) resulting from, or pertaining to, the conduct of research and development efforts. This information reports on progress or results of DOE-funded research and development or demonstration and usually is published as Technical reports, journal articles, reprints, theses or dissertations, conference and symposium proceedings, or translations. This may include experimental data, theoretical data, analytical studies, and economic and energy use projections. This information is used by managers, scientists, researchers, and engineers engaged in scientific and technological efforts, and is the basic intellectual resource for and result of such effort. TIC documentation including DOE 1430.1 describes the reporting requirements and procedures for such information and reports. The reports themselves are briefly described in the attachment to Chapter III of this Order.

## 7. OTHER INFORMATION.

- a. Confidentiality Statement. The information required under the various provisions of this Order may be information which is exempt from disclosure to the public under the exemption for trade secrets and confidential commercial information specified in 5 U.S.C. 552(b)(4), of 7-4-66, as amended, or prohibited from public release by 18 U.S.C. 1905, of 9-12-80. DOE will determine whether any information submitted should be withheld from public disclosure in accordance with the provisions of 10 CFR 1004.11, of 1-8-79. By statutory authority, DOE must provide this information when requested to the Congress or any committee of the Congress and the General Accounting Office.

- b. Government Printing Regulations. All reports described herein are subject to 44 U.S.C. and the "Government Printing and Binding Regulations" of the Joint Committee of the Congress of the United States. Additionally, all reports are subject to DOE 1340.1A.
- c. Applicability to Other Government Agencies. The reports herein have been cleared in accordance with 41 CFR 101-11.11.
- d. Paperwork Reduction Act. The information collection requirements contained herein have been cleared through 12-31-83 by the Office of Management and Budget (OMB No. 1901-0261.) Action is underway within the Department to obtain the necessary subsequent clearance for this information collection, in accordance with section 3504 (h) of the Paperwork Reduction Act, 44 U.S.C. 3501, et. seq., and procedures implementing that Act, Title 5 CFR 1320.1, et. seq.
- e. Forms Supplies. Forms herein are available on request from:

U.S. Department of Energy  
Technical Information Center  
Secondary Distribution  
P.O. Box 62  
Oak Ridge, TN 37830

## CHAPTER II

### PROGRAM MANAGEMENT REPORTING

#### 1. HOW TO SELECT PLANS AND REPORTS.

- a. General. When establishing a reporting requirement, each of the following factors should be jointly considered:
  - (1) The Activity to be Performed. A major determinant in the selection of plans and reports should be the nature of the work. Program/project managers should consider the scope and characteristics of the activity in making an appropriate selection of baseline plans and reports. As previously indicated, a basic research project, characterized as scientific inquiry with uncertain results, may not show progress on a scheduled basis. On the other hand, certain conservation programs have specific goals, for example, the weatherization of a number of homes for the elderly during a specified period.
  - (2) The Duration and Complexity of the Effort. The extent and complexity of the activity should suggest the kinds of information necessary for DOE either to monitor the activity or to be involved in a responsible manner.
  - (3) The Program Legislation, Federal Regulations, and Guidance. Some DOE program legislation requires specific reporting, controls, and procedures. Program managers and assistance recipients must abide by the statutory and regulatory terms of the program to ensure the collection of essential information.
  - (4) The Significance of the Effort. High interest by the public, Congress, or the Administration will require current and timely information on performance.
  - (5) The Information Requirements of Other DOE Organizations. The data requirements of the Controller and the Director of Procurement and Assistance Management should be identified and satisfied. Any other DOE organizations involved in a stewardship role should identify their data requirement for the program/project manager preparing the reporting requirements.
- b. When Reports are Due. The date for submitting reports is identified for the recipient on the "Federal Assistance Reporting Checklist" in the award. How often a report is submitted can vary with each grant or cooperative agreement, and generally is negotiated prior to award, and is indicated by a letter code in the "frequency" column. The frequency codes for submittal are shown in Figure II-1 unless otherwise specified in the award documentation:



A (As necessary).....	Within 5 calendar days after event.
F (Final).....	Within 90 days of the end of performance on the Federal assistance effort.
X (With proposal or application).....	Accompanying proposal application, or with significant planning changes.
O (One time).....	Within 30 days after award.
M (Monthly).....	Within 20 days after the end of a calendar month (not generally selectable for grants).
Q (Quarterly).....	Within 30 days after the end of a budget period quarter.
S (Semiannually).....	Within 30 days after end of a budget period half year.
Y (Yearly).....	Within 90 days after end of a budget period.

Figure II-1  
Frequency Codes for Submittal of Reports

- c. Distribution of Reports. The finance officer must receive copies of all "Financial Status Reports." The contracting officer must receive copies of all required reports. The DOE program/project manager should be aware of the information needs of other DOE organizations and should make provisions to distribute reports to them. Organizations designated to receive specific reports should be so advised. Insofar as possible, award recipients should not be asked to submit multiple reports to several addressees. However, the "addressees" column of the "Federal Assistance Reporting Checklist" will usually indicate that reports should be submitted as follows (if further distribution is required, the DOE program/project manager should make such distribution):
- (1) To avoid any possible delay, the "Financial Status Report" will often be submitted by the recipient directly to the awarding officer and to the designated DOE finance organization so that costs can be entered into DOE's financial information system. A copy of the report will usually be submitted to the program manager. The DOE program/project manager should provide the assistance recipient with a budget and reporting number for the current DOE fiscal year so that the recipient can include the current budget and reporting number in the remarks section of the "Financial Status Report."

- (2) Other status reports should be submitted to the DOE program manager or to an appropriate addressee in the program organization.
  - (3) The technical report requirements of the DOE Patent Counsel (GC-42) and the Technical Information Center are discussed in Technical Information Center documentation including DOE 1430.1. These requirements should be identified on the checklist.
- d. Selection Guides for Baseline Plans and Reports. The tables presented in Figure II-2 suggest appropriate baseline plans and reports for the types of activity performed under grants and cooperative agreements. These tables are provided only as initial references for DOE program managers. DOE program managers are expected to apply their specific knowledge of all factors involved to make appropriate report selections. For example:
- (1) Selection may be imposed or limited by legislation.
  - (2) The DOE program manager also must consider alternatives (such as alternative payment reporting) to and restrictions on financial reporting contained in OMB circulars and 10 CFR 600.
  - (3) There are special cases in which more frequent or more detailed reporting may be required. Generally, these are cases in which the recipient has a history of poor performance, is not financially stable, or has a management system which does not meet prescribed standards. In such instances report selection should be accomplished according to procedures established in the DOE 4600.1.
- e. Preparing the Federal Assistance Solicitation to Include Reporting Requirements. After determining which plans and reports are necessary for the activity, the DOE program manager will ensure that the awarding officer incorporates these requirements into the solicitation. The solicitation should contain the program identification number from the catalog of "Federal Domestic Assistance" and identify any relevant program legislation for the applicant/proposer. Blank forms for the required baseline plans should be included in the solicitation as part of the application/proposal package. Additionally, the solicitation should contain a brief description of the required status reports to assist the applicant/proposer in determining the total administrative costs. A brief description of this Order, each baseline plan, and each status report is provided in Attachment II-2. These are offered as suggested descriptions of the system, the plans, and the reports for inclusion in the solicitation where appropriate. The DOE program manager and the awarding officer should work together to develop the solicitation to ensure that baseline plans and status report descriptions, as well as technical information reporting requirements, are included.

Table 1. Selection Guide for Grants

	RESEARCH PROGRAMS	HUMAN RESOURCE DEVELOPMENT PROGRAMS	CONSERVATION & PUBLIC SERVICE PROGRAMS	TECHNOLOGY RESOURCE DEVELOPMENT & PRODUCTION PROGRAMS
Milestone Plan				X
Budget Information Form	X	X	X	X
Management Summary Report			X, Q, F	Q, F
Program/Project Status Report		F	Q, F	Q, F
Financial Status Report	T, F	T, F	Q, F	Q, F
Notice of Award/	Q, Y			Q, Y
Technical Progress Report	T			T
Technical Topical Report	A			A
Final Technical Report	F			F

Table 2. Selection Guide for Cooperative Agreements

	RESEARCH PROGRAMS	HUMAN RESOURCE DEVELOPMENT PROGRAMS	CONSERVATION & PUBLIC SERVICE PROGRAMS	TECHNOLOGY RESOURCE DEVELOPMENT & PRODUCTION PROGRAMS
Milestone Plan				X, Y
Budget Information Form	X	X	X, Y	X
Management Summary Report			X	N or Q, F
Program/Project Status Report	T	T, F	X, Q, F	N or Q, F
Financial Status Report	T, F	T, F	Q, F	Q, F
Notice of Award/	Q, Y		Q, F	Q, Y
Technical Progress Report	T			T
Technical Topical Report	A			A
Final Technical Report	F			F

1/ A Notice of Energy Award must be submitted at the beginning of each project year. (DOE 1300.1)

Figure II-2  
Selection Guides for Plans and Reports

f. Preparation of the Federal Assistance Reporting Checklist.

- (1) The DOE program manager states the anticipated reporting requirements in the solicitation by using a "Federal Assistance Reporting Checklist." The checklist, revised as appropriate, will become a part of the assistance award. The DOE program manager completes a checklist by providing specifics in each of the following areas:
  - (a) Selection of reports;
  - (b) Frequency of reports;
  - (c) Distribution of reports (name/title and address);
  - (d) Number of copies to be submitted; and
  - (e) Special instructions:
    - 1 Budget and reporting number for cost reporting; and
    - 2 Program specific reports, reporting categories, or topical requirements.
- (2) Specific information for preparing a checklist is on the reverse of the form. Addressees to whom reports will be forwarded directly must be provided on an additional page. If more space is needed in item 5, additional pages can be attached. A completed checklist and attachment are shown as Figures II-3 and II-4.
- (3) Two signature blocks are provided on the checklist. The DOE program manager preparing the checklist should sign at item 6. When the preparer of the checklist exceeds the recommended selection, shown in Figure II-2, a review and approval of at least the next level of supervision is required. It is the reviewer's responsibility to ensure that only data necessary for effective program/project management appears as a checklist requirement.

2. HOW TO PREPARE PLANS AND REPORTS.

- a. General. DOE and Office of Management and Budget forms are used for all plans and reports in this Order. Instructions for the preparation of plan and report forms appear on the reverse side of each form. The examples in this Order illustrate those instructions. Although each plan or report addresses different aspects of performance, the following data elements are common to all the forms.
  - (1) Program/Project Identification Number. The award number as it appears on the award, if available.

U.S. DEPARTMENT OF ENERGY FEDERAL ASSISTANCE REPORTING CHECKLIST			
FORM 704-001 10-82		FORM 704-001 OAS 10-100-0177	
1. Identification Number: Cooperative Agreement DE-FC-OI-00RA1234		2. Program/Project Title: Pilot Energy Awareness Training Program	
3. Recipient: Ace Utility Company, Utopia, Illinois			
4. Reporting Requirements:			
PROGRAM/PROJECT MANAGEMENT REPORTING		Frequency	No. of Copies
<input checked="" type="checkbox"/>	Federal Assistance Management Plan	X, Y	1
<input checked="" type="checkbox"/>	Federal Assistance Budget Information Form	X, Y	1
<input checked="" type="checkbox"/>	Federal Assistance Management Summary Report	Q	1
<input checked="" type="checkbox"/>	Federal Assistance Program/Project Status Report	Q	1
<input checked="" type="checkbox"/>	Financial Status Report, OMB Form 220	Q	1, 1, 1
TECHNICAL INFORMATION REPORTING			
<input type="checkbox"/>	Notice of Energy R&D		
<input type="checkbox"/>	Technical Progress Report		
<input type="checkbox"/>	Technical Report		
<input type="checkbox"/>	Final Technical Report		
<p style="text-align: center;">FREQUENCY CODES AND DUE DATES.</p> <p style="font-size: x-small;">             A As Necessary, within 6 calendar days after event.              F Final 30 calendar days after the performance of the effort ends.              Q Quarterly within 30 days after end of calendar quarter or portion thereof.              O One time after project starts, within 30 days after event.              X Required with proposal or with the solicitation or with significant planning changes.              Y Yearly 30 days after the end of program year. Financial Status Reports 90 days.              S Semiannual, within 30 days after end of program fiscal year.           </p>			
5. Special Instructions:			
<p>1. No technical reports are required due to the nature of this program.</p> <p>2. A final narrative report summarizing accomplishments and evaluating the program is due 90 days after the program ends.</p> <p>Note: For Q substitute "budget period quarter" for "calendar quarter or portion thereof."              For Y substitute "budget period" for "program year."              For S substitute "budget period" for "program fiscal."</p>			
6. Prepared by: (Signature and Date) 11/3/81 T. J. Voseworthy		7. Reviewed by: (Signature and Date) 11/3/81 M. B. Smith	

Figure II-3  
Example Federal Assistance Reporting Checklist

### FEDERAL ASSISTANCE REPORTING CHECKLIST

#### PURPOSE

This form serves to identify plans and reports selected by DOE as reporting requirements for the Federal Assistance Program/Project.

#### INSTRUCTIONS

- Item 1 — Enter the program /project identification number as it appears in the official award
- Item 2 — Enter the program/project description as it appears in the official award
- Item 3 — Enter the name of the recipient.

- Item 4 — Check spaces to indicate plans and reports selected. For each report checked, indicate frequency of delivery in column provided using one of the frequency of delivery codes as shown, as well as the number of copies requested and to whom they should be sent.

Federal Assistance Milestone Plan — presents, with the accompanying Milestone Log, a schedule of the planned activity.

Federal Assistance Budget Information Form — presents the planned costs.

Federal Assistance Management Summary Report — registers planned progress and costs to actual progress and costs in a capsulized format.

Federal Assistance Program/Project Status Report — periodically reports project status, explains variances and problems, and discusses any other areas of concern or achievements.

Financial Status Report, OMB Form 269 — presents the status of funds committed to the project.

Notice of energy R&D Project — provides information on unclassified DOE R&D Project for dissemination to the scientific, technical, and industrial communities and to the public. Also provides information to the Smithsonian Information Exchange and to the DOE Technical Information Center.

Technical Progress Report — periodically reports progress and/or results of DOE supported R&D and scientific projects covering a specific reporting period

Topical Report — presents the technical results of work performed on a specific phase of a project.

Final Technical Report — presents a technical accounting of the total work performed on a project.

Frequency Codes — Each code represents a specific reporting frequency (such as Quarterly). These time periods are suggested in the program announcement and negotiated at the time of the award.

- Item 5 — Identify any special reporting requirements or instructions not identified in Item 4 (Use additional sheets as necessary.).

- Item 6 — Signature of person preparing the checklist and the date prepared. Preparation is by person responsible for program solicitation.

- Item 7 — Signature of the person reviewing the checklist and date reviewed.

Figure II-3 (Continued)  
Federal Assistance Reporting Checklist (Reverse Side)

Report Distribution List	
A.	T. J. Noteworthy, Program Manager San Francisco Operations Office U.S. Department of Energy 1333 Broadway Oakland, California 94612
B.	S. F. Gelman, Awarding Officer San Francisco Operations Office U.S. Department of Energy 1333 Broadway Oakland, California 94612
C.	A. D. Bowman, Financial Officer San Francisco Operations Office U.S. Department of Energy 1333 Broadway Oakland, California 94612

Figure II-4  
Example Attachment to Federal Assistance Reporting Checklist

- (2) Program/Project Title. The official title as it appears in the award, if available. Otherwise the title should be short and descriptive.
  - (3) The Name of the Proposer/Recipient. This information should appear as it does or would in the award.
  - (4) The Planning or Reporting Period. The period of time covered by the plan or the report, identified by inclusive dates.
  - (5) The Program/Project Start Date. The date identified in the award as the official start date, if available.
- b. Structuring of Reporting Elements. A major facet of management is identifying and organizing the objectives of the work and planning the resources to accomplish them. Before any program begins, the prime objectives as well as the supporting objectives must be carefully determined and defined. All of the objectives must be organized and interrelated to attain the program goals, and the objectives must be communicated to all parties managing the program work.

- (1) The range of DOE Federal assistance programs is broad and diverse. At one extreme are those programs characterized by planning and reporting of discrete, measureable milestones or accomplishments. Examples of these efforts are the number of homes insulated or the number of schools and hospitals which have had energy audits. Other assistance work may not be measurable in terms of quantity. For example, some research activity may only be capable of being monitored on the basis of the quality of technical aspects of the work. Periodic review of technical reports by experts in the specific field or conversations with the researcher are considered acceptable methods for reviewing and evaluating many types of basic research tasks or activities. Some DOE Federal assistance programs are characterized by the absence of predetermined structure. Programs which promote innovation and invention are examples of this type of program.
- (2) The solicitation will describe broad areas of scientific or engineering endeavors which it is in the public interest to fund. In these programs the applicant/proposer will describe the structure of the proposed work. Clearly, it is in the best interest of the applicant/proposer to establish a logical and understandable approach for the work effort, and this Order provides sufficient flexibility to accommodate a wide range of work structures.
- (3) In those cases where a work planning and reporting structure is desired, the DOE program manager will determine the reporting elements which are required to objectively monitor the work for which the recipient is responsible. An explicit description of these reporting elements should be included in the solicitation in order for all applicants/proposers to respond uniformly. This facilitates the review and evaluation of applications/proposals and, later, facilitates the monitoring process by having a reporting standard for measuring progress on similar work.
- (4) A management tool that can assist a manager in organizing the project is the work breakdown structure. For illustration, a work breakdown structure is shown in Figure II-5.
  - (a) Level I refers to the program or project objective. For some programs, DOE will define level I and level II elements on the "Federal Assistance Reporting Checklist." In the example, level I corresponds to "Pilot Energy Awareness Training Program," and is numbered 1.0.
  - (b) Level II consists of the component tasks essential to fulfill the objective. In the example, there are five tasks which must be accomplished in order to establish, conduct and evaluate the "Pilot Energy Awareness Training Program." These level II components are commonly referred to as elements of work and numbered progressively 1.1, 1.2, 1.3, 1.4, and 1.5.



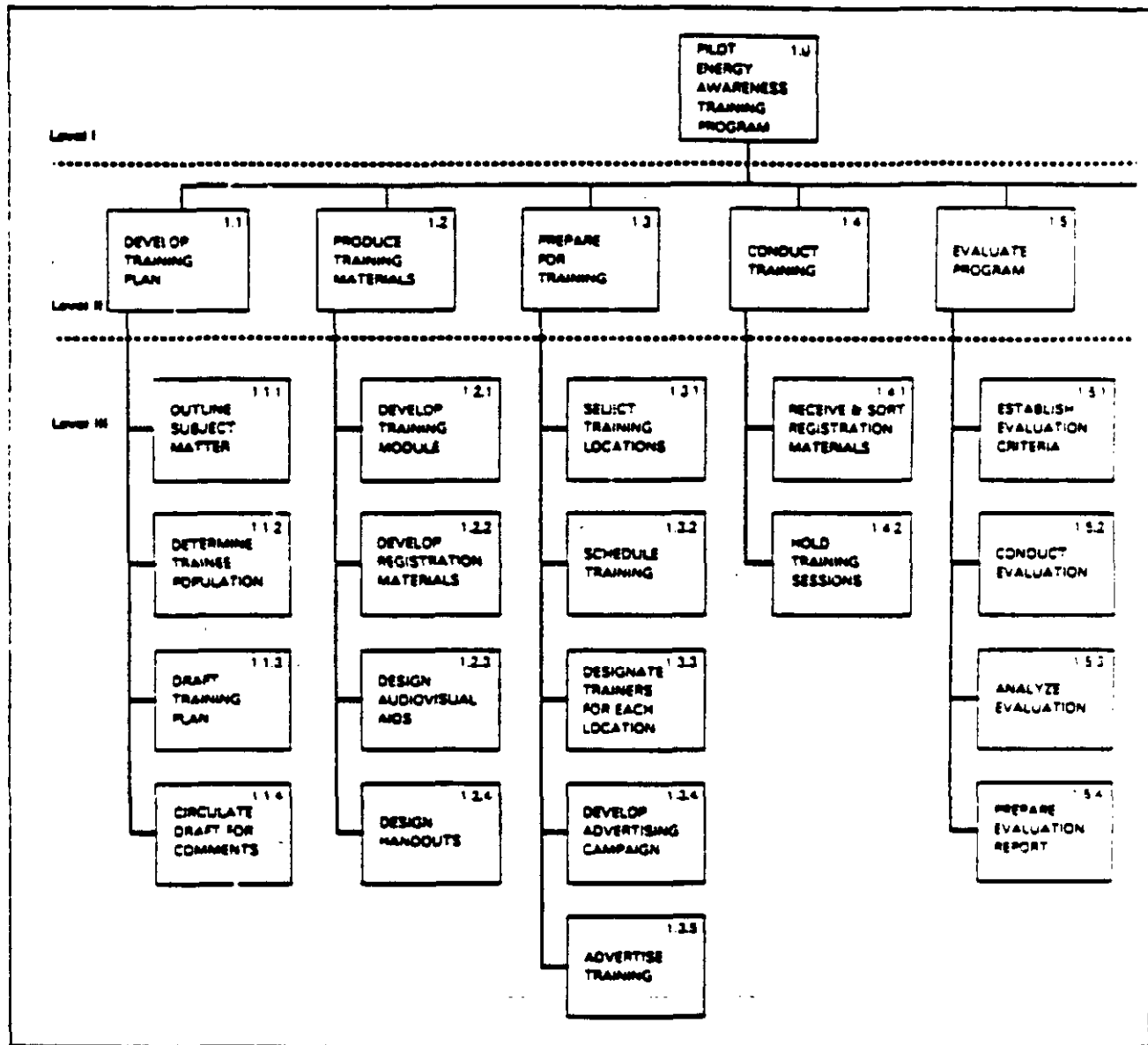


Figure II-5  
Example Work Breakdown Structure

- (c) Level III outlines the subtasks necessary for the completion of the level II tasks. For example, in order to "Produce Training Materials" (1.2), there are four subtasks which need to be performed. These are numbered 1.2.1, 1.2.2, 1.2.3, and 1.2.4. These subtasks are not necessarily a sequential ordering of work to be performed, but represent a breakdown of the level II task.

c. Federal Assistance Milestone Plan (Form EIA-459B).

(1) Purpose.

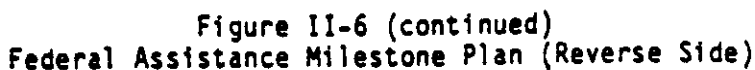
- (a) The "Federal Assistance Milestone Plan" presents the schedule for the planned work. The plan establishes the recipient's time schedule for accomplishing the planned events and milestones for each reporting element identified in the solicitation. The form is normally accompanied by a "Milestone Log" with the planned completion date of each item.
  - (b) Standard DOE charting symbols and charting conventions described on the reverse side of the form are used to chart the intermediate events and milestones. Detailed preparation instructions appear on the reverse side of the form. Intermediate events and critical milestones are further identified in an attached "Milestone Log," and include the identification number, descriptive name of the event or milestone, and the scheduled date of completion. A sample "Federal Assistance Milestone Plan" and a companion "Milestone Log" are shown at Figures II-6 and II-7.
- (2) General Instructions. The plan will be prepared to the level of detail specified in the solicitation. A schedule should be developed for the total effort from start to finish. The plan should provide more detail in the current year and less detail for later years.
- (3) Discussion of the Example, Figure II-6.

- (a) Item 6 - Identification Number. The identification number is a milestone reference number given to the task by the recipient or taken from the work breakdown structure. In this example, the milestone identification numbers correspond to the numbers given to the work breakdown structure elements.
- (b) Item 7 - Planning Category (Work Breakdown Structure Tasks). A short descriptive title is entered for each activity. In the example, the titles correspond to the work breakdown structure elements.
- (c) Item 8 - Program/Project Duration. The block extending left to right represent convenient units of time which cover the duration of the work effort. In this example, the first month of planned activity is April, identified by an "A" in the first block.

- (d) Item 9 - Comments. This column is provided for the convenience of the planner and allows the addition of any comments, notes, names of performers or subgrantees, or other appropriate items. For task 1.4, there is a comment that 30 seminars will be conducted.
- (4) Discussion of the Example, Figure II-7.
- (a) The purpose of the "Milestone Log" is to list the events and milestones which are depicted on the Federal Assistance Milestone Plan. Also there are columns for the planned and actual occurrence dates for each of the events listed.
  - (b) For example, activity 1.1 on the "Federal Assistance Milestone Plan" has three events occurring during its duration. "Draft Training Plan Prepared" (1.1A), "Draft Circulated for Comments" (1.1B), and "Approved Training Plan Completed" (1.1). The planned occurrence dates for these events are 4-30-81, 5-14-81, and 5-29-81, respectively. Since the "Milestone Log" is not used as a required status report, the "Actual Completion Date" column is for the convenience of the user only.
- d. Federal Assistance Budget Information Forms (Forms EIA-459C and EIA-459D).
- (1) Purpose. Either the construction or nonconstruction "Federal Assistance Budget Information Form" is used to establish the planned budget for the complete effort. It is usually submitted in the application or proposal to provide basic cost information for the assistance award. The cost information provided should represent a well prepared cost plan for the total effort.
  - (2) General Instructions.
    - (a) Before the "Federal Assistance Budget Information Form" can be completed, the planned schedule or activity should be examined to determine what resources (manpower, materials, and/or facilities) will be required to accomplish the work. The cost of these can be projected against the schedule of activities. The cost can be planned on a monthly, quarterly, or annual basis and totaled on the "Federal Assistance Budget Information Form." An example of a complete "Federal Assistance Budget Information Form" for projects which do not involve construction or land is shown at Figure II-8.
    - (b) If the major purpose of the effort is construction, land acquisition, or land development, and the application is for \$10,000 or greater, the "Federal Assistance Budget Information Form" for construction should be used. This form is shown in Figure II-9. (Note that the example data is unrelated to the hypothetical training program which does not involve construction.) Otherwise if the application is for less than \$10,000 and does not require

U.S. DEPARTMENT OF ENERGY FEDERAL ASSISTANCE MILESTONE PLAN											
1. Project/Program Name and Date		2. Project/Program No.		3. Project/Program Title		4. Project/Program Start Date		5. Project/Program Completion Date		6. Project/Program Status	
DOE-01-0001210		DOE-01-0001210		Pilot Energy Awareness Training Program		5/1/81		3/31/82		5/1/81	
3. Project/Program Description		4. Project/Program Description		5. Project/Program Description		6. Project/Program Description		7. Project/Program Description		8. Project/Program Description	
3. Project/Program Description		4. Project/Program Description		5. Project/Program Description		6. Project/Program Description		7. Project/Program Description		8. Project/Program Description	
1.1	Develop Training Plan	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">B</div> <div style="border: 1px solid black; padding: 2px;">C</div> <div style="border: 1px solid black; padding: 2px;">D</div> <div style="border: 1px solid black; padding: 2px;">E</div> <div style="border: 1px solid black; padding: 2px;">F</div> <div style="border: 1px solid black; padding: 2px;">G</div> <div style="border: 1px solid black; padding: 2px;">H</div> <div style="border: 1px solid black; padding: 2px;">I</div> <div style="border: 1px solid black; padding: 2px;">J</div> <div style="border: 1px solid black; padding: 2px;">K</div> <div style="border: 1px solid black; padding: 2px;">L</div> <div style="border: 1px solid black; padding: 2px;">M</div> <div style="border: 1px solid black; padding: 2px;">N</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">Q</div> <div style="border: 1px solid black; padding: 2px;">R</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">U</div> <div style="border: 1px solid black; padding: 2px;">V</div> <div style="border: 1px solid black; padding: 2px;">W</div> <div style="border: 1px solid black; padding: 2px;">X</div> <div style="border: 1px solid black; padding: 2px;">Y</div> <div style="border: 1px solid black; padding: 2px;">Z</div> </div>									
1.2	Produce Training Materials	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">B</div> <div style="border: 1px solid black; padding: 2px;">C</div> <div style="border: 1px solid black; padding: 2px;">D</div> <div style="border: 1px solid black; padding: 2px;">E</div> <div style="border: 1px solid black; padding: 2px;">F</div> <div style="border: 1px solid black; padding: 2px;">G</div> <div style="border: 1px solid black; padding: 2px;">H</div> <div style="border: 1px solid black; padding: 2px;">I</div> <div style="border: 1px solid black; padding: 2px;">J</div> <div style="border: 1px solid black; padding: 2px;">K</div> <div style="border: 1px solid black; padding: 2px;">L</div> <div style="border: 1px solid black; padding: 2px;">M</div> <div style="border: 1px solid black; padding: 2px;">N</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">Q</div> <div style="border: 1px solid black; padding: 2px;">R</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">U</div> <div style="border: 1px solid black; padding: 2px;">V</div> <div style="border: 1px solid black; padding: 2px;">W</div> <div style="border: 1px solid black; padding: 2px;">X</div> <div style="border: 1px solid black; padding: 2px;">Y</div> <div style="border: 1px solid black; padding: 2px;">Z</div> </div>									
1.3	Prepare for Training	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">B</div> <div style="border: 1px solid black; padding: 2px;">C</div> <div style="border: 1px solid black; padding: 2px;">D</div> <div style="border: 1px solid black; padding: 2px;">E</div> <div style="border: 1px solid black; padding: 2px;">F</div> <div style="border: 1px solid black; padding: 2px;">G</div> <div style="border: 1px solid black; padding: 2px;">H</div> <div style="border: 1px solid black; padding: 2px;">I</div> <div style="border: 1px solid black; padding: 2px;">J</div> <div style="border: 1px solid black; padding: 2px;">K</div> <div style="border: 1px solid black; padding: 2px;">L</div> <div style="border: 1px solid black; padding: 2px;">M</div> <div style="border: 1px solid black; padding: 2px;">N</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">Q</div> <div style="border: 1px solid black; padding: 2px;">R</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">U</div> <div style="border: 1px solid black; padding: 2px;">V</div> <div style="border: 1px solid black; padding: 2px;">W</div> <div style="border: 1px solid black; padding: 2px;">X</div> <div style="border: 1px solid black; padding: 2px;">Y</div> <div style="border: 1px solid black; padding: 2px;">Z</div> </div>									
1.4	Conduct Training	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">B</div> <div style="border: 1px solid black; padding: 2px;">C</div> <div style="border: 1px solid black; padding: 2px;">D</div> <div style="border: 1px solid black; padding: 2px;">E</div> <div style="border: 1px solid black; padding: 2px;">F</div> <div style="border: 1px solid black; padding: 2px;">G</div> <div style="border: 1px solid black; padding: 2px;">H</div> <div style="border: 1px solid black; padding: 2px;">I</div> <div style="border: 1px solid black; padding: 2px;">J</div> <div style="border: 1px solid black; padding: 2px;">K</div> <div style="border: 1px solid black; padding: 2px;">L</div> <div style="border: 1px solid black; padding: 2px;">M</div> <div style="border: 1px solid black; padding: 2px;">N</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">Q</div> <div style="border: 1px solid black; padding: 2px;">R</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">U</div> <div style="border: 1px solid black; padding: 2px;">V</div> <div style="border: 1px solid black; padding: 2px;">W</div> <div style="border: 1px solid black; padding: 2px;">X</div> <div style="border: 1px solid black; padding: 2px;">Y</div> <div style="border: 1px solid black; padding: 2px;">Z</div> </div>									
1.5	Evaluate Training	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">B</div> <div style="border: 1px solid black; padding: 2px;">C</div> <div style="border: 1px solid black; padding: 2px;">D</div> <div style="border: 1px solid black; padding: 2px;">E</div> <div style="border: 1px solid black; padding: 2px;">F</div> <div style="border: 1px solid black; padding: 2px;">G</div> <div style="border: 1px solid black; padding: 2px;">H</div> <div style="border: 1px solid black; padding: 2px;">I</div> <div style="border: 1px solid black; padding: 2px;">J</div> <div style="border: 1px solid black; padding: 2px;">K</div> <div style="border: 1px solid black; padding: 2px;">L</div> <div style="border: 1px solid black; padding: 2px;">M</div> <div style="border: 1px solid black; padding: 2px;">N</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">Q</div> <div style="border: 1px solid black; padding: 2px;">R</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">U</div> <div style="border: 1px solid black; padding: 2px;">V</div> <div style="border: 1px solid black; padding: 2px;">W</div> <div style="border: 1px solid black; padding: 2px;">X</div> <div style="border: 1px solid black; padding: 2px;">Y</div> <div style="border: 1px solid black; padding: 2px;">Z</div> </div>									
9. Remarks											
10. Signature of Project Manager and Date		11. Signature of DOE Reviewing Representative and Date									
T. J. McNamee, Jr.		T. J. McNamee, Jr.									
1/15/81		1/15/81									
3/22/81		3/22/81									

Figure II-6  
Example Federal Assistance Milestone Plan



MILESTONE LOG				Pilot Energy Awareness Training Program <u>Program/Project Title</u>
Ident. No.	Description	Planned Completion Date	Actual Completion Date	Comments
1.1A	Draft Training Plan Prepared	4-30-81		
1.1B	Draft Circulated for Comments	5-14-81		
1.1	Approved Training Plan Completed	5-29-81		
1.2A	Training Modules Developed	7-10-81		
1.2B	Registration Materials Designed	7-17-81		
1.2C	Audio-Visual Aids Designed	7-31-81		
1.2D	Handouts Designed	7-31-81		
1.2	All Training Materials Printed	8-31-81		
1.3A	Training Locations Selected	6-12-81		
1.3B	Training Scheduled	6-26-81		
1.3C	Advertising Campaign Developed	7-17-81		
1.3D	Ads Run in Local Papers	1-08-82		
1.3	Training Preparation Completed	1-08-82		
1.4A	Registration Materials Received and Sorted	1-15-82		
1.4B	Training Sessions Held	1-29-82		
1.4	Training Completed	1-29-82		
1.5A	Evaluation Criteria Established	8-07-82		
1.5B	Evaluation Survey Conducted	2-05-82		
1.5C	Evaluation Data Analyzed	3-05-82		
1.5	Evaluation Report Prepared	3-31-82		

Figure II-7  
Example Milestone Log

clearinghouse approval, an environmental impact statement, or the relocation of persons, businesses or farms, the "Federal Assistance Budget Information Form" for nonconstruction is used (unless the applicant is a State, local or Indian tribal government in which case OMB Circular A-102 specifies the use a "short form application").

(3) Discussion of the Example, Figure II-8.

- (a) Items 1-5. These items display the identifying characteristics of the program/project.
- (b) Section A - Budget Summary. In this section the total budget is presented for the particular project. Since this project pertains to a single Federal assistance program with no functional or activity breakdown, only line 1 is used.
- (c) Section B - Budget Categories. In this section the total budget is presented for each of the cost categories of direct costs with indirect costs computed at a rate agreed upon at the time of award or, in the case of many recipients, predetermined by a single Federal agency assigned the responsibility of negotiating a rate accepted by all Federal Agencies.

e. Federal Assistance Management Summary Report (Form EIA-459E) as a Baseline Plan.

- (1) Purpose. Although the "Federal Assistance Management Summary Report" is used as a status report it can be used as a baseline plan as well. As a planning document, it is a concise, top-level summary of planned costs and schedule. The plan is presented on a single page in a graphic format with supporting data. The graphic format permits rapid visual comparison of cost and schedule. When the period of performance is 12 months or less, and this form is used as a plan, the "Federal Assistance Milestone Plan" need not be used.
- (2) General Instructions.
  - (a) The cost graphs are cumulative presentations, which can present 12 months of work. The cost chart permits the planned costs to be shown in quarterly increments.
  - (b) The milestone portion of this report establishes the recipient's time schedule for accomplishing the planned events and milestones for each reporting element identified in the solicitation. An example of a completed form when it is being used as a plan is shown as Figure II-10.

DOE 1332.2  
10-31-83

11-17

FEDERAL ASSISTANCE BUDGET INFORMATION FORM						
FORM EIA-480C REVISED					FORM APPROVED OMB No. 1500-0127	
1. Program Project Identification No. DE-EG-01-008A1234		2. Program Project Title Prior Energy Awareness Training Program (P.E.A.T.P.)				
3. Name and Address ACE Utility Company Utopia, Illinois					4. Program Project Start Date 4/01/81	
					5. Completion Date 3/31/82	
SECTION A: BUDGET SUMMARY						
Grant Program Function or Activity (a)	Funding Category No. (b)	Estimated Unobligated Funds		Type of Federal Support		
		Federal (c)	Non-Federal (d)	Repayment (e)	Non-Repayment (f)	Total (g)
1. P.E.A.T.P.	81.007	\$	\$	\$ 197,300	\$ 97,700	\$ 295,000
2.						
3.						
4.						
5. TOTALS		\$	\$	\$ 197,300	\$ 97,700	\$ 295,000
SECTION B: BUDGET CATEGORIES						
6. Object Class Categories	Grant Program Function or Activity				Total (g)	
	(a) P.E.A.T.P.	(b)	(c)	(d)		
• Personnel	\$ 160,200	\$	\$	\$	\$ 160,200	
• fringe benefits	17,500				17,500	
• Travel	30,800				30,800	
• Equipment	4,400				4,400	
• Supplies	8,700				8,700	
• Construction	20,400				20,400	
• Construction	- 0 -				- 0 -	
• Other	- 0 -				- 0 -	
• Total Direct Charges	242,000				242,000	
• Indirect Charges	53,000				53,000	
6. TOTALS	\$ 295,000	\$	\$	\$	\$ 295,000	
7. Program income	- 0 -	\$	\$	\$	- 0 -	

Figure II-8  
Example Federal Assistance Budget Information Form  
(Non-Construction)



## FEDERAL ASSISTANCE BUDGET INFORMATION FORM

## INSTRUCTIONS

- Item 1 Enter the Federal Grant or agreement identification number for the current year as it appears in the official award, if known.
- Item 2 Enter the Program Project official title as it appears in the award.
- Item 3 Enter name and address of the agency or office responsible for coordination and administration of the Program Project.
- Item 4 Enter the official start date.
- Item 5 Enter the official completion date as of the latest official modification.

Section A: Budget Summary  
Lines 1-4: Columns 1a and 1b

For applications pertaining to a single Federal grant program (Federal Domestic Assistance Catalog number) and not requiring a functional or activity breakdown, enter on Line 1 under Column 1a the catalog program title and the catalog number in Column 1b.

For applications pertaining to a single program requiring budget amounts by mission functions or activities, enter the name of each activity or function on each line in Column 1a and enter the catalog number in Column 1b. For applications pertaining to multiple programs, where none of the programs require a breakdown by function or activity, enter the catalog program title on each line in Column 1a and the respective catalog number on each line in Column 1b.

For applications pertaining to multiple programs where one or more programs require a breakdown by function or activity, prepare a separate sheet for each program requiring the breakdown. Additional sheets should be used when one form does not provide adequate space for all breakdown of data required. However, when more than one sheet is used, the first page should provide the summary totals by program.

Lines 1-4: Columns 1c through 1f

For new applications, leave Columns 1c and 1d blank. For each line entry in Columns 1a and 1b, enter in Columns 1c, 1d, and 1e the appropriate amounts of funds needed to support the project.

For continuing grant program applications, submit these forms before the end of each funding year if required by Program Manager. Enter in Columns 1c and 1d the estimated amounts of funds which will remain unobligated at the end of the grant funding period only if the award instructions provide for this. Otherwise, leave these columns blank. Enter in Column 1e and 1f the amount of funds needed for the upcoming period. The amount in

Column 1g should be the sum of the amounts in Columns 1c and 1d.

For supplemental grants and changes to existing grants, do not use Columns 1c and 1d. Enter in Column 1c the amount of the increase or decrease of Federal funds and enter in Column 1d the amount of increase or decrease of non-Federal funds. In Column 1g, enter the new total budgeted amount (Federal and non-Federal) which includes the total previously authorized budgeted amounts plus or minus, as appropriate, the amounts shown in Columns 1c and 1d. The amounts in Column 1g should not equal the sum of the amounts in Columns 1c and 1d.

Line 5 - Show the totals for all columns used.

## Section B: Budget Categories

In the column headings (1) through 1d, enter the titles of the same programs, functions, and activities shown on Lines 1-4, Column 1a. Section A. When additional sheets were prepared for Section A, provide column headings on each sheet. For each program function or activity, fill in the total requirements for funds from Federal and non-Federal by direct cost categories.

Lines 6a - Show the estimated amount for each direct cost budget object class category for each program function or activity heading.

Line 6 - Show the totals of Lines 6a to 6h in each column.

Line 6 - Show the amount of indirect cost. Refer to FAC 754.

Line 6h - Enter the total of amounts on Lines 6 and 6i. For all applications for new grants and continuation grants, the total amount in Column 1d, Line 6h, should be the same as the total amount shown in Section A, Column 1g, Line 5. For supplemental grants and changes to grants, the total amount of the increase or decrease as shown in Column 1f, Line 6i, should be the same as the sum of the amounts in Section A, Columns 1c and 1d on Line 5. When additional sheets were prepared, the last two sentences apply only to the first page with summary totals.

Line 7 - Enter the estimated amount of income, if any, expected to be generated from the project. Do not add or subtract this amount from the total project amount. Show under the program narrative statement the nature and source of income. The estimated amount of program income may be considered by the Program Manager in determining the total amount of the grant.

THIS REPORT IS REQUIRED IN ACCORDANCE WITH 48 U.S.C. 7501 AND 48 U.S.C. 7511. FAILURE TO REPORT MAY RESULT IN CONTRACT TERMINATION OR PENALTIES AS PROVIDED BY LAW.

ALL DOE CREDIT FOR PROVISIONS CONCERNING CONFIDENTIALITY OF INFORMATION

Figure II-8 (Continued)  
Federal Assistance Budget Information Form (Reverse Side)  
(Non-Construction)

FEDERAL ASSISTANCE BUDGET INFORMATION FORM (CONSTRUCTION)			
FORM 84-1000 1-83		FORM APPROVED DATE 01-10-83	
PROGRAM/PROJECT IDENTIFICATION NO.		PROGRAM/PROJECT TITLE	
		Steam Turbine Facility Construction	
1. NAME AND ADDRESS		2. PROGRAM/PROJECT START DATE	
Creative Construction 1000 Development Way Coralville, WV		01/02/83	
		3. COMPLETION DATE	
		01/31/84	
<b>SECTION A - GENERAL</b>			
1. Federal District Assistance Granting No. _____			
2. Functions or Other Breakout _____ N/A			
<b>SECTION B - CALCULATION OF FEDERAL GRANT</b>			
Cost Classification	Use Only for Revisions		Total Amount Requested
	Letter Abbreviation Amount	Adjustment + or -	
1. Administration Expenses	0	0	228,500
2. Professional Expenses			68,900
3. Land, Structures, Right-of-Way			477,500
4. Architectural Engineering Basic Fees			105,000
5. Other Architectural Engineering Fees			11,300
6. Project Inspection Fees			5,000
7. Land Development			85,000
8. Research Expenses			115,000
9. Research Payments to Individuals and Businesses			435,000
10. Construction and Repair			25,000
11. Construction and Project Improvement			965,000
12. Salvage			198,000
13. Miscellaneous			--
14. Total (Lines 1 through 13)			2,719,900
15. Estimated Income of Applicant			910,000
16. Net Project Amount (Line 14 minus Line 15)			1,809,900
17. Less: Available Subsidies			427,500
18. Add: Contingencies			179,685
19. Total Project Amount (Including Reproduction Grants)			2,417,085
20. Federal Share (Maximum of Line 19)			850,000
21. Add Reproduction Grants (Maximum 110% of 20)			--
22. Total Federal Grant Requested (Lines 20 & 21)			850,000
23. Grantee Share			1,249,500
24. Other Shares			350,000
25. Total Project (Lines 22, 23 & 24)	0	0	2,449,500

Figure II-9  
Federal Assistance Budget Information Form  
(Construction)

FEDERAL ASSISTANCE BUDGET INFORMATION FORM  
(CONSTRUCTION)

## INSTRUCTIONS

Item 1 - Enter the Federal Grant or agreement identification number for the current year if an award has been made.

Item 2 - Enter the Program/Project title.

Item 3 - Enter name and address of the agency or office responsible for construction and administration of the Program/Project.

Item 4 - Enter the official start date.

Item 5 - Enter the official completion date as of the latest of final modification.

## Section A - General

1. Show the Federal Domestic Assistance Catalog Number from which the assistance is requested. When more than one program or Catalog Number is involved and the amount cannot be attributed to the Federal grant program or Catalog Number on an equal percentage basis, prepare a separate set of forms for each program or Catalog Number. However, show the total amounts for all programs in Section B of the latest application form.

2. Show the functional or other categorical breakdown, if required by the Federal grantor agency. Prepare a separate set of forms for each category.

## Section B - Continuation of Federal Grant

When applying for a new grant, use the Total Amount Column only. When requesting renewals of previously awarded amounts, use all columns.

Line 1 - Enter amounts needed for administration expenses including such items as travel, legal fees, rental of vehicles and any other expenses items expected to be incurred to administer the grant. Include the amount of interest income when furnished by program legislation and also show this amount under Section E - Revenues.

Line 2 - Enter amounts pertaining to the work of locating and designing, making surveys and maps, preparing test plans, and all other work required prior to actual construction.

Line 3 - Enter amounts directly associated with the acquisition of land, building structures, and related right-of-way.

Line 4 - Enter basic fees for architectural engineering services.

Line 5 - Enter amounts for other architectural engineering services, such as surveys, tests, and drawings.

Line 6 - Enter fees for mobilization and cost of construction and related programs.

Line 7 - Enter amounts associated with the development of land where the primary purpose of the grant is land improvement. See work normally associated with final construction should be excluded from this category and shown on Line 11.

Line 8 - Enter the dollar amount needed to provide relocation advisory assistance and the net amounts for relocation cost (rental housing). Do not include relocation administration expenses on this line. Include them on Line 1.

Line 9 - Enter the estimated amount of relocation assistance to be made to displaced persons, business concerns and nonprofit organizations for moving expenses and replacement housing.

Line 10 - Enter the gross salaries and wages of employees of the grantee who will be directly engaged in performing demolition or removal of structures from developed land. This line should show also the cost of demolition or removal of improvements on developed land under a third party contract. Reduce the cost of this line by the amount of material proceeds from the sale of salvage if so indicated by the Federal grantor agency. Otherwise, show the proceeds on Line 15.

Line 11 - Enter amounts for the actual construction of addition to or restoration of a facility. Also include in this category the amounts of project improvements such as sewers, streets, landscaping and lighting.

Line 12 - Enter amounts for equipment both fixed and movable inclusive of equipment used for construction. For example, include amounts for permanently attached laboratory tables, built-in audio visual systems, movable seats, chairs, and laboratory equipment.

Line 13 - Enter amounts for items not specifically mentioned above.

Line 14 - Enter the sum of Lines 1-13.

Line 15 - Enter the estimated amount of program income that will be earned during the grant period and added to the program.

Line 16 - Enter the difference between the amount on Line 14 and the estimated income shown on Line 15.

Line 17 - Enter amounts for those items which are part of the project but not subject to Federal participation. (See Section C, Line 26g, Column (1)).

Line 18 - Enter the estimated amount for contingencies. Calculate this amount by taking 5 percent from the net project amount shown on Line 16, the chargeback amount shown on Line 17 and the amount which is excluded from the contingency provisions shown in Section C, Line 26g, Column (2). Multiply the combined amount by the percentage factor shown by the grantor agency in accordance with the Federal program guidance. For those grants which provide for a fixed dollar allowance in lieu of a percentage allowance, enter the dollar amount of this allowance.

Line 19 - Show the total amount of Lines 16, 17 and 18. (This is the amount to which the matching share rate provided in program legislation is applied.)

Line 20 - Show the amount of Federal funds requested exclusive of funds for relocation purposes.

Line 21 - Enter the estimated amounts needed for relocation expenses if relocation grants to individuals are made for which grantees are reimbursed 100% by the Federal grantor agency in accordance with program legislation. If the grantees phase in part of this expense show the total amount on Line 13 instead of on Line 21 and enclose in Section E - Revenues.

Line 22 - Show the total amount of the Federal grant requested.

Line 23 - Show the amount from Section D, Line 27h.

Line 24 - Show the amount from Section D, Line 28c.

Line 25 - Self-administration.

Figure II-9 (Continued)  
Federal Assistance Budget Information Form (Reverse Side)  
(Construction)

FEDERAL ASSISTANCE BUDGET INFORMATION FORM (CONSTRUCTION)			
SECTION C - EXCLUSIONS			
25	Classification	Excluded from Participation (1)	Excluded from Contingency Provisions (2)
a.	Land Development	85,000	-
b.	Relocation Expenses	95,000	20,000
c.	Relocation Payments	150,000	77,500
d.		-	-
e.		-	-
f.		-	-
g.	Total	330,000	97,500

SECTION D - PROPOSED METHOD OF FINANCING NON-FEDERAL SHARE		
27	Grantee Share	\$1,249,500
a.	Securities	-
b.	Mortgages	-
c.	Appropriations (to Agencies)	975,000
d.	Bonds	274,500
e.	Gift Loans	-
f.	Non-Cash	-
g.	Other Sources	-
h.	TOTAL - Grantee Share	1,249,500
28	Other Shares	350,000
a.	Sales	350,000
b.	Other	-
c.	Total Other Shares	350,000
29	TOTAL	\$1,599,500

SECTION E - REMARKS	

**INSTRUCTIONS**

**Section C - Exclusions**

Line 25 a-g - Identify and list those costs in Column (1) which are part of the project cost but are not subject to Federal participation because of program legislation or Federal grant agency instructions. The total amount on Line g should agree with the amount shown on Line 17 of Section B. Show in Column (2) those project costs that are subject to Federal participation but are not eligible for inclusion in the amount used to compute contingency amounts as provided in the Federal grant agency instructions.

**Section D - Proposed Method of Financing Non-Federal Share**

Line 27 a-g - Show the source of the grantee's share. If cash is not immediately available, identify the actions committed to date and those actions remaining to make cash available under Section E - Remarks. Indicate also the period of time that will be required after execution of the grant agreement to obtain the funds. If there is a non-cash contribution, explain what the contribution will consist of.

Line 27 h - Show the total of Lines 27 a-g. This amount must equal the amount shown in Section B, Line 22.

Line 28 a - Show the amount that will be contributed by a State or state agency, even if the agency is not a State or a state agency. If there is a non-cash contribution, explain what the contribution will consist of under Section E - Remarks.

Line 28 b - Show the amount that will be contributed from other sources. If there is a non-cash contribution, explain what the contribution will consist of under Section E - Remarks.

Line 28 c - Show the total of Lines 28a and 28b. This amount must be the same as the amount shown in Section B, Line 24.

Line 29 - Show the total of Line 27h and Line 28c.

**Section E - Other Remarks**

Make any remarks pertinent to the project and provide any other information required by these instructions or the grant agency. Attach additional sheets, if necessary.

Figure II-9 (Continued)  
Federal Assistance Budget Information Form  
(Construction)

(3) Discussion of the Example, Figure 11-10.

- (a) Item 3 - Reporting Period. When this form is used as a report, this block is used to indicate the reporting period. For programs/projects that are longer than 1 year, the entry in this block corresponds to the planning period in the baseline plan. When the "Federal Assistance Management Summary Report" form is used as a plan and the project is 1 year or less long, the block need not be filled in. If the project is more than 1 year long, and this form is used as a plan, the block should show total project duration. Since this example is only for 1 year, the block has not been filled in.
- (b) Item 7 - Fiscal Year. Recipient uses this block for the current Government Fiscal Year identification when reporting status. This block is not used when the form is used as a plan.
- (c) Item 8 - Months or Quarters. The time schedule can be identified by months or quarters. In the example, the first quarter of the budget period is identified in the first 3 blocks with "1st". Note that the quarters are true calendar quarters. The months also are indicated with the first character of the month's name.
- (d) Item 9 - Cost Status. The dollar scale is expressed in units of a thousand, as noted. A total dollar value for the budget period is represented by a solid line at the planned ceiling of \$295,000. Planned cost figures, entered at the base of the graph in the blocks provided, are cumulative and are entered in the last block for each quarter. On the graph, the quarterly points are plotted at the end of each quarter. For the first quarter, "58" is entered in the "J" column to indicate total planned costs up to the end of the first quarter. A broken line joining the points depicts planned costs over time.
- (e) Item 10 - Cost Chart. This section allows the recipient to show the breakout of funds among two to four possible fund sources or by activity as presented on the "Federal Assistance Milestone Plan." Blocks are provided for total planned and actual costs for each quarter, cumulative to date, and the fiscal year. A block is provided to identify the variance between the total planned and total actual costs per quarter. A block is also provided for total planned costs for all project years.
- (f) Item 11 - Major Milestone Status. The milestones are entered with an identification number and short descriptive title. If appropriate, line entries should show an estimated number of units planned for completion in the column titled "Units Planned Units Completed." The example indicates that 30 seminars are planned to be completed during the project. When quantification of results is not possible, such as for the last milestone "1.5 Prepare Evaluation Report," no unit measure should be entered. The activity bar indicates the interval of time planned for performing the task, using the same schedule shown in item 8, above.

Figure II-10  
Example Federal Assistance Management Summary Report  
as a Baseline Plan

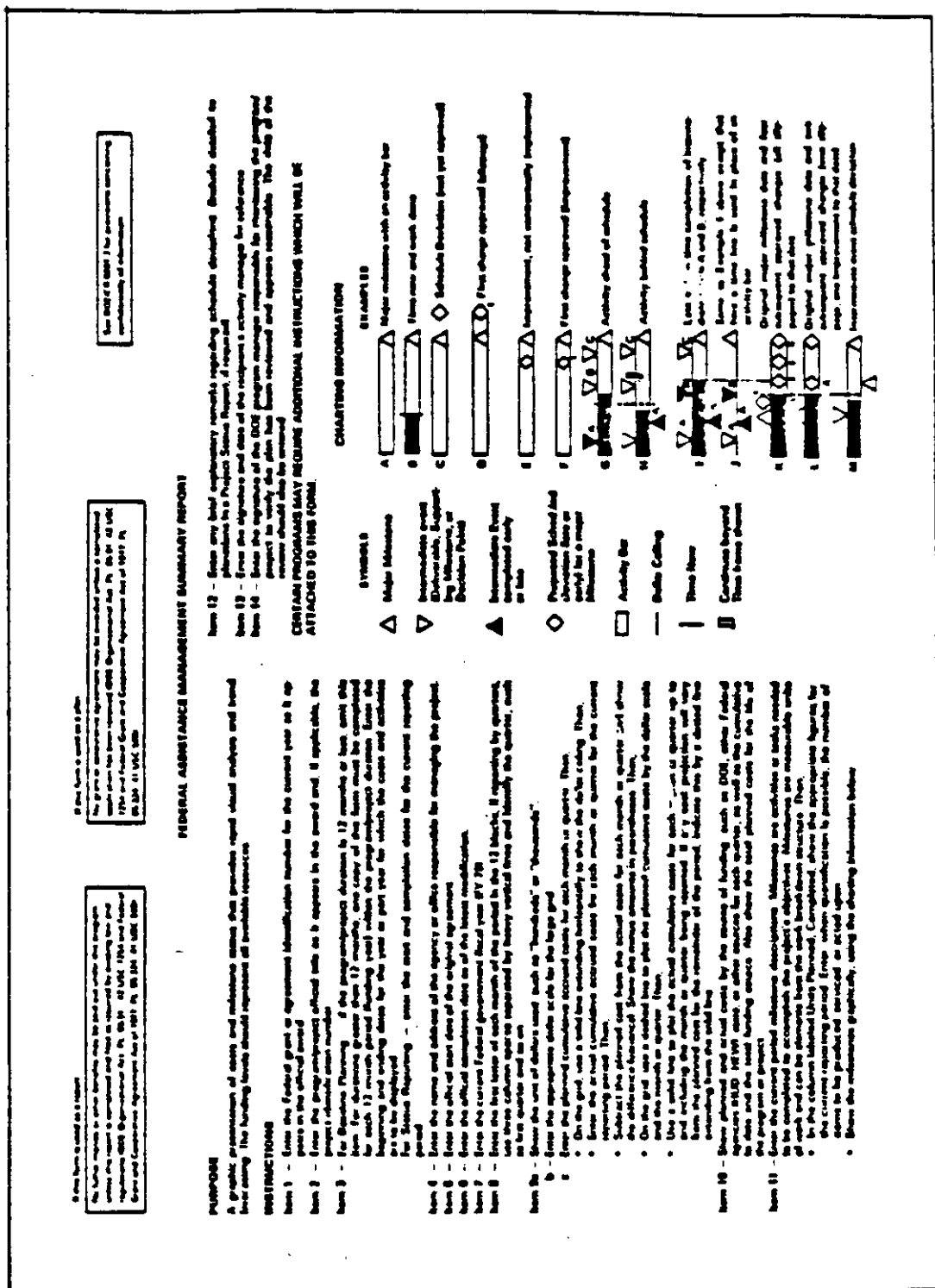


Figure II-10 (Continued)  
Federal Assistance Management Summary Report (Reverse Side)

f. Federal Assistance Program/Project Status Report (Form EIA-459F).

- (1) Purpose. The "Federal Assistance Program/Project Status Report" is the recipient's concise narrative assessment of the status of the work. This report is used by DOE management to monitor project status and to provide early recognition of potential problem areas.
- (2) General Instructions. This report is used to discuss technical accomplishments, variations from baseline plans or the technical approach, and actual or anticipated problems and actions taken or proposed to resolve them. The recipient also will provide an assessment of the current situation including a forecast of the near future and any impact on project accomplishment. An example of a completed report is shown as Figure II-11.
- (3) Discussion of the Example, Figure II-11.
  - (a) Item 7 - Approach Changes. A brief description of any changes in the work effort should be provided in this section. This would include a description of any technical changes as well as program changes. If more information is necessary, attach additional pages. In the example the box is checked to indicate no changes.
  - (b) Item 8 - Performance Variances, Accomplishments, or Problems. This section should include a discussion of the problems and variances, their causes, and the effects on the project. Any accomplishments during the reporting period should be noted. The example refers to the destruction of the training facility at one of the selected sites, which has an impact on the training seminars conducted, as well as the costs incurred for those seminars.
  - (c) Item 9 - Open Items. This section is used to discuss any items which have not yet been resolved between the recipient and DOE. In the example, discussion of alternative approaches to resolve the schedule deviation and cost underrun situation are stated.
  - (d) Item 10 - Status Assessment and Forecast. This section of the report allows the recipient to present an analysis of the situation. Proposed solutions and expectations of future progress can also be discussed. The example discusses the recipient's recommendation regarding the open item discussed above.
  - (e) Item 11 - Description of Attachments. In the example, one copy of each training module and accompanying training aids have been attached.





No further monies or other benefits may be paid out under this program unless this report is completed and filed as required by existing law and regulations (DOE Organizational Act, PL 95-91, 42 USC 7294 and Federal Grant and Cooperative Agreement Act of 1977, PL 95-224, 41 USC 505).

See DOE CR-0001.3 for provisions concerning confidentiality of information.

## FEDERAL ASSISTANCE PROGRAM/PROJECT STATUS REPORT

### PURPOSE

A concise narrative describing the current status of the effort. The report allows Federal assistance recipients to communicate developments, achievements, changes and problems to DOE.

### INSTRUCTIONS

- Item 1 - Enter the Federal grant or agreement identification number for the current year as it appears in the official award.
- Item 2 - Enter the program/project official title as it appears in the award and, if applicable, the project identification number.
- Item 3 - Enter the start and completion dates for the current reporting period.
- Item 4 - Enter the name and address of the recipient office responsible for managing the project.
- Item 5 - Enter the official start date of the original agreement.
- Item 6 - Enter the official completion date as of the latest modification.
- Item 7 - Provide a description of any changes from the work plan, including technical changes, the explanation as to why these changes occurred, and what the impact on performance will be. If there were no changes during the reporting period, check the box for "none."
- Item 8 - Include a discussion of accomplishments, problems and/or variances, their causes and the effects on the effort. If no performance variances, accomplishments, nor problems occurred during the reporting period, check "none."
- Item 9 - Discuss any unresolved issues or items that require action by DOE or recipient. If there are no unresolved issues which require action or coordination, check "none."
- Item 10 - Present analysis of program/project status, proposed solutions to problems, and future expectations regarding the project. If no deviations from the plan are forecast, enter a check in the box provided.
- Item 11 - Provide a short list of program/project related attachments. If no attachments accompany the report, check "none."
- Item 12 - The recipient should sign and date the report so that, if questions arise, they can be directed to the appropriate individual.
- Item 13 - The DOE reviewing representative, usually the DOE program manager responsible for monitoring the program, signs and dates the form to indicate it has been reviewed and appears reasonable.

Figure II-11 (Continued)  
Federal Assistance Program/Project Status Report (Reverse Side)

g. Financial Status Report (Standard Form 269).

- (1) Purpose. The "Financial Status Report" provides information on the status of both Federal and non-Federal funds for all nonconstruction programs and projects. This report provides for separation of the non-Federal share of outlays and unliquidated obligations from the Federal share of funding requirements. (For programs/projects involving construction, refer to OMB Circular No. A-102, Exhibit 4, "Outlay Report and Request for Reimbursement for Construction Programs.")
- (2) General Instructions.
  - (a) Reported costs may be requested on an accrual basis. If the recipient's accounting system does not provide costs on an accrual basis, then a best estimate of accrued cost should be accepted.
  - (b) Specific instructions for completion of the report are provided on the forms. An example of a completed report is shown at Figure II-12.
- (3) Discussion of the Example, Figure II-12.
  - (a) Item 7 - Basis. The "cash" or "accrual" block should be marked in accordance with program division policy on reporting accrued costs.
  - (b) Item 8 - Project/Grant Period. The dates entered in this space are the same as those entered on the "Notice of Financial Assistance Award" as completed by DOE.
  - (c) Item 9 - Period Covered by this Report. The dates entered in this space correspond to the time period covered by this report, 7-1-81 to 9-30-81.
  - (d) Item 10 - Status of Funds. The funds expended for the entire work effort are reported in this column. The period covered by this report is for the second quarter of the project. The net outlays for the first quarter are entered on line 10a (\$58,000). The total outlays for this reporting period are entered on line 10b (\$83,000). Line 10e "Net outlays to date," is the summation of the net outlays previously reported and this report period (\$141,000). Line 10f is the non-Federal share of those outlays. Line 10k is the total Federal share of outlays, and line 10l is the Federal share of outlays cumulated to date. Line 10m is the balance of Federal funds and is the difference between lines 10k and 10l.

- (e) Item 11 - Indirect Expense. The method of calculating indirect cost, as specified in the Federal assistance instrument, is indicated in this space. This example indicates that there is a predetermined indirect cost rate of 22 percent and that it is applied to the total amount of direct costs.
  - (f) Item 12 - Remarks. This line allows the recipient to refer to other performance reports for more information and to specify the applicable budget and reporting number.
- h. Federal Assistance Management Summary Report (Form EIA-459E) as a Status Report.
- (1) Purpose. Use of the "Federal Assistance Management Summary Report" as a baseline plan was described earlier. It is also used as a status report. As such, it provides a concise, top-level summary of performance for cost and schedule against the baseline plan. The data is presented on a single page in graphic format with supporting data. The graphic format permits rapid visual comparison of cost and schedule. The "Federal Assistance Management Summary Report" form is used to report summary status regardless of the forms used in planning.
  - (2) General Instructions. The cost graphs are cumulative presentations. The milestone status chart compares planned and actual progress for the same time interval as shown above. Instructions for completing them are provided on the reverse side of each form. An example of a completed form when it is being used as a report is shown as Figure 11-13.
  - (3) Discussion of the Example, Figure 11-13.
    - (a) Item 3 - Reporting Period. The reporting period shown in this example is the second quarter, 7-1-81 through 9-30-81.
    - (b) Item 7 - Fiscal Year. The Government fiscal year (FY) is 1981 at the close of the report, 9-30-81, and is therefore identified here by the recipient as FY 81.
    - (c) Item 8 - Months or Quarters. The time schedule is identified by month, starting with the first month of the budget period, April. The schedule has also been identified by quarter.
    - (d) Item 9 - Cost Status. The dollar scale is expressed in units of a thousand, as noted. A total dollar line is drawn solidly across the chart to show the budget year's planned ceiling of \$295,000. The planned cost line is represented by a dashed line. Actual costs are plotted on the graph as a solid line. In the example, actual costs total \$141,000 to date and the



Form	Form
<p>4 Enter the program identification number assigned by the U.S. Internal Revenue Service or FICE (International Code), if required by the Program Manager.</p> <p>5 This space is reserved for an account number or other identifying numbers that may be assigned by the recipient.</p> <p>9 Enter the report date and year of the beginning and ending of the report period. For quarterly reports, date are not entered on a project basis, when the grant period.</p> <p>10 The purpose of various columns (a) through (i) is to provide financial data for each program function and activity in the budget as approved by the Program Manager. If additional columns are needed, use as many additional forms as needed and indicate each number in these columns in upper right. However, the total of all programs, functions or activities should be shown in column (i) of the first page. For programs pertaining to special studies or Federal Domestic Assistance programs that do not require a further functional or activity classification breakdown enter under columns (a) through (i) the title of the program. For grants or other assistance agreements comprising multiple programs where one or more programs require a further breakdown by function or activity, use a separate form for each program showing the applicable functions or activities in the various columns. For grants or other assistance agreements comprising several functions or activities which are funded from several programs prepare a separate form for each activity or function which is funded by the Program Manager.</p> <p>10a Enter the net costs. This amount should be the same as the amount reported in line 10a of the last report if there has been an adjustment in the amount shown previously. Please attach explanation. Show zero if this is the first report.</p> <p>10b Enter the total gross program activities fees received, returned, and other disbursements for the report period including disbursements of cash received as program income. For reports that are prepared on a cash basis, include the sum of actual cash disbursements for goods and services, the amount of indirect charges charged the value of in-kind contributions received, and the amount of cash advances and disbursements made to contractors and subcontractors. For reports prepared on an accrual basis, include the sum of actual cash disbursements, the amount of indirect charges, the value of in-kind contributions received, and the net increase or decrease in the amounts owed by the recipient for goods and other property received and for services performed by contractors, subcontractors, subcontractors, and other services.</p>	<p>10c Enter the amount of all program income received in the period that is required by the terms and conditions of the Federal award to be deducted from total project costs. For reports prepared on a cash basis, enter the amount of cash income received during the reporting period. For reports prepared on an accrual basis, enter the amount of income earned over the beginning of the reporting period, when the terms or conditions allow program income to be added to the total award against in reports, the source, amount and destination of the income.</p> <p>10f Enter amount pertaining to the non-Federal share of a program activity included in the amount on line 2.</p> <p>10h Enter total amount of unincurred obligations for the project or program including unincurred obligations to subcontractors and contractors. Unincurred obligations are:</p> <p>Cash basis—obligations incurred but not paid</p> <p>Accrual basis—obligations incurred but for which an invoice has not been received</p> <p>Do not include any amounts that have been included on lines 2 through 5. On the final report, line 10h should have a zero balance.</p> <p>10i Enter the Federal share of unincurred obligations shown on line 10h. The amount shown on this line should be the difference between the amounts on lines 2 and 10h.</p> <p>10j Enter the sum of the amounts shown on lines 2 and 10i. If the result is zero, the result should not contain any unincurred obligations.</p> <p>10m Enter the unexpended balance of Federal funds. This amount should be the difference between lines 2 and 10j.</p> <p>11a Enter rate in effect during the reporting period.</p> <p>11b Enter amount of the cost to which the rate was applied.</p> <p>11c Enter total amount of indirect cost charged during the report period.</p> <p>11d Enter amount of the Federal share charged during the report period.</p> <p>If more than one rate was applied during the project period, include a separate schedule showing dates against which the indirect cost rates were applied. The resulting indirect costs, the Federal cost and net indirect costs were a direct amount of indirect charges charged to the project and the Federal share of indirect charges charged to the project is zero.</p>

Figure II-12 (Continued)  
Financial Status Report (Reverse Side)

"141" point is plotted on the graph. Please note the planned accrued costs from the same period come to the "147" point on the graph. The graph illustrates a cost underrun. It also shows a projected cost line for future quarters based on the recipient's experience to date. The projected cost line is shown as a dotted line joining the planned cost line at 12-31-81. The recipient has projected that actual costs will return to planned cost in the next quarter.

- (e) Item 10 - Cost Chart. This block allows the recipient to display a breakout of funds for the program indicating the contributing sources. If there is only one source of funds, the breakout of funds in item 10 should be by activity, as presented in the milestone plan. In the example, funds are provided by DOE and the ACE Utility Company. The planned amount from each source is entered for each quarter. Also the actual funds required from each fund source are shown to date. Total (planned and actual) for each quarter and cumulative to date are entered at the bottom. Note that the total cumulative to date figures ("141" and "147") correspond to the points plotted on the graph. The variance for both quarters and cumulative to date is also identified.
- (f) Item 11 - Major Milestone Status. This block tracks progress against significant milestones. Progress is indicated by filling the milestone bars with a solid tone to correspond with the progress achieved during the reporting period. The vertical dashed line is a "time now" line and is an indication of the end of the reporting period. The example shows two activities completed, two activities on schedule, and one activity behind schedule. By comparing actual progress to the "time now" line, a quick assessment of schedule status can be made. When the "Federal Assistance Milestone Plan" and "Milestone Log" are also used plans and status shown on this report should correspond.

Figure II-13  
Example Federal Assistance Management Summary Report  
as a Status Report



Do not fill in until you are sure you have the correct information.

Do not fill in until you are sure you have the correct information.

Do not fill in until you are sure you have the correct information.

Do not fill in until you are sure you have the correct information.

Do not fill in until you are sure you have the correct information.

Do not fill in until you are sure you have the correct information.

### FEDERAL ASSISTANCE MANAGEMENT SUMMARY REPORT

#### PURPOSE

A graphic presentation of costs and milestones which the program report must include and must be reviewed. The following items should represent all available information.

#### INSTRUCTIONS

Item 1 - Enter the Federal grant or agreement identification number for the current year as it appears on the official record.

Item 2 - Enter the program report identification number as it appears on the official record.

Item 3 - For Budget Planning - If the program report identifies 12 months or less, enter the cost for each month. If the program report identifies more than 12 months, enter the cost for each 12-month period (beginning and ending dates for each 12-month period) within the program report's duration. Enter the beginning and ending dates for the year or part year for which the program report is to be completed.

Item 4 - For Status Reporting - enter the start and completion dates for the current reporting period.

Item 5 - Enter the name and address of the agency or office responsible for managing the project.

Item 6 - Enter the official start date of the original agreement.

Item 7 - Enter the official completion date as of the latest modification.

Item 8 - Enter the current Federal government fiscal year (FY).

Item 9 - Enter the first date of each month of the period in the 12 months, if applicable, by quarter, with three columns space required by heavy vertical lines and lightly the quarter, such as first quarter and so on.

Item 10 - Show the cost of dollars used, such as "Thousands" or "Billions".

Item 11 - Enter the appropriate dollar rate for the large grid.

Item 12 - Enter the planned cumulative actual cost for each month or quarter. Then:

- On the grid, use a solid line extending horizontally to show the dollar value. Then:
- Enter the actual cumulative actual cost for each month or quarter for the current reporting period. Then:
- Subtract the planned cost from the actual cost for each month or quarter and show the difference (over or under). Show the amount in parentheses. Then:
- On the grid, use a dashed line to plot the planned cumulative costs by the dollar rate and the month or quarter. Then:
- Use a solid line to plot the actual cumulative costs for each month or quarter up to and including the month or quarter being reported. If any cost projection and very from the planned cost for the remainder of the period, indicate this by a dotted line extending from the solid line.

Item 13 - Show planned and actual costs by the source of funding, such as DOE, other Federal agencies, DOE 100% loan or other source for each quarter, as well as the cumulative planned and actual funding source. After showing the total planned costs for the life of the program or project.

Item 14 - Enter the current period of the program report. Milestones are activities or events related to the program report. Enter the date of the milestone. Milestones are activities or events related to the program report. Enter the date of the milestone. Milestones are activities or events related to the program report. Enter the date of the milestone.

Item 15 - In the column labeled "Milestone Planning", enter the appropriate figure for the current reporting period. Enter the appropriate figure for the current reporting period. Enter the appropriate figure for the current reporting period. Enter the appropriate figure for the current reporting period.

Item 16 - Show the milestone graphically, using the charting information below.

#### CHARTING INFORMATION

EXAMPLES

A Major Milestone ☐ Major milestone with an activity bar

B Minor Milestone ☐ Minor milestone with an activity bar

C Milestone with an activity bar ☐ Milestone with an activity bar

D Milestone with an activity bar ☐ Milestone with an activity bar

E Milestone with an activity bar ☐ Milestone with an activity bar

F Milestone with an activity bar ☐ Milestone with an activity bar

G Milestone with an activity bar ☐ Milestone with an activity bar

H Milestone with an activity bar ☐ Milestone with an activity bar

I Milestone with an activity bar ☐ Milestone with an activity bar

J Milestone with an activity bar ☐ Milestone with an activity bar

K Milestone with an activity bar ☐ Milestone with an activity bar

L Milestone with an activity bar ☐ Milestone with an activity bar

M Milestone with an activity bar ☐ Milestone with an activity bar

N Milestone with an activity bar ☐ Milestone with an activity bar

O Milestone with an activity bar ☐ Milestone with an activity bar

P Milestone with an activity bar ☐ Milestone with an activity bar

Q Milestone with an activity bar ☐ Milestone with an activity bar

R Milestone with an activity bar ☐ Milestone with an activity bar

S Milestone with an activity bar ☐ Milestone with an activity bar

T Milestone with an activity bar ☐ Milestone with an activity bar

U Milestone with an activity bar ☐ Milestone with an activity bar

V Milestone with an activity bar ☐ Milestone with an activity bar

W Milestone with an activity bar ☐ Milestone with an activity bar

X Milestone with an activity bar ☐ Milestone with an activity bar

Y Milestone with an activity bar ☐ Milestone with an activity bar

Z Milestone with an activity bar ☐ Milestone with an activity bar

Figure II-13 (Continued)  
Federal Assistance Management Summary Report (Reverse Side)

## RESEARCH PROJECT EXAMPLE

### 1. INTRODUCTION.

- a. This example portrays a research grant from DOE to a university. The project is intended to establish the impact, if any, of the use of four recently developed airfoil designs upon the suppression of blade tip induced noise in large wind driven generators.
- b. The example illustrates the plans and reports which might be submitted on a project of this type. Also included is a discussion of how each plan and report is used in this example.
- c. Figures 1-1 and 1-2 are the "Federal Assistance Reporting Checklist" and "Reports Distribution List," respectively. They illustrate the plans and reports which would be submitted by a recipient of such a research grant and who will be the recipient of those plans and reports.

### 2. DISCUSSION OF EXAMPLES.

- a. Federal Assistance Budget Information Form (Form EIA 459-C) (Figure 1-3).
  - (1) Items 1-5. These items display the identifying characteristics of the program/project.
  - (2) Section A - Budget Summary. In this section the total budget is presented for the particular grant program. Since this project pertains to a single Federal grant program with no functional or activity breakdown, only line 1 is used.
  - (3) Section B - Budget Categories. In this section the total budget is presented for each of the cost categories of direct costs with indirect costs computed at a rate determined by an agreement between the grantee and the grantor or as a result of an audit of the grantee's operation by the grantor Agency.
- b. Financial Status Report (Form 269) (Figure 1-4).
  - (1) Item 7. The "cash" or "accrual" block should be marked in accordance with program policy on reporting.
  - (2) Item 8. The dates entered in this space are the same as those entered on the Notice of Financial Assistance Award prepared by DOE.
  - (3) Item 9. The dates entered in the space correspond to the time period covered by this report, 7-1-80 to 6-30-81.

- (4) Item 10. The total funds expended on the research effort are reported in this section. The period covered by this report is the entire life of the project. Therefore, the total costs for this project are entered in line item 10b at \$113,000. The net outlays this report period (line item 10d) and the net outlays to date (line item 10e) are equal to the total outlays this report period (line item 10b). The total Federal share of outlays to date is entered as line item 10g also at \$113,000. Line items 10h through 10j are zero because no other financial commitments have been made to date. Line item 10l is the total amount of Federal funds authorized and is equal to the total Federal share of outlays (line item 10g). Since this report sums all costs on a total project basis, column 10g is the same as column 10a.
- (5) Item 11. The method of calculating indirect costs, as specified in the Federal assistance instrument, is indicated in this space. This example shows that there is a predetermined indirect cost rate of 40 percent and that it is applied to the total amount of direct costs.
- (6) Item 12. This line allows the recipient to refer to other performance reports for more information.
- c. Notice of Energy RD&D Project (Form DOE 538) (Figure 1-5). The "Notice of Energy RD&D Project" report is required for all research, development and demonstration efforts except weapon systems. It is submitted shortly after the award is given and updated annually for the duration of the effort. The purpose of this report is to inform the scientific community of research efforts being undertaken.
- d. University Contractor, Grantee and Cooperative Agreement Recommendations for Announcement and Distribution of Documents (Form DOE RA-427) (Figure 1-6). This form is used by the originator of a technical report to indicate the distribution appropriate for it.

U.S. DEPARTMENT OF ENERGY FEDERAL ASSISTANCE REPORTING CHECKLIST			
FORM 86-0000 1-78		FORM APPROVED DOE NO. 1000 0177	
1. Identification Number: Grant DE-FG-01-00CS4567		2. Program/Project Title: Noise Suppression In Wind Driven Generators	
3. Recipient: Pierce State University			
4. Reporting Requirements:		Frequency	No. of Copies
PROGRAM/PROJECT MANAGEMENT REPORTING			
<input type="checkbox"/> Federal Assistance Mission Plan			
<input checked="" type="checkbox"/> Federal Assistance Budget Information Form		X	1,1,1
<input type="checkbox"/> Federal Assistance Management Summary Report			
<input type="checkbox"/> Federal Assistance Program/Project Status Report			
<input checked="" type="checkbox"/> Financial Status Report, OMB Form 200		F	1,1,1
TECHNICAL INFORMATION REPORTING			
<input checked="" type="checkbox"/> Notice of Energy R&D		O,Y	1,3,1,1
<input checked="" type="checkbox"/> Technical Progress Report		A	1,4,1,1
<input checked="" type="checkbox"/> Technical Report		A	1,4,1,1
<input checked="" type="checkbox"/> Final Technical Report		F	1,4,1,1
FREQUENCY CODES AND DUE DATES:			
<p>A - As Necessary: within 5 calendar days after award.</p> <p>F - Final: 30 calendar days after the performance of the effort ends.</p> <p>O - Quarterly: within 30 days after end of calendar quarter or quarter thereof.</p> <p>C - One time after project starts: within 30 days after award.</p> <p>X - Required with progress or with the completion or with significant planning changes.</p> <p>Y - Yearly: 30 days after the end of program year. Financial Status Reports 30 days.</p> <p>S - Semi-annually: within 30 days after end of program fiscal half year.</p>			
5. Special Instructions:			
<p>Technical Reports sent to TIC should be in the form of a reproduction master and one copy.</p>			
6. Prepared by: (Signature and Date) 1/30/81 J. S. Anderson <i>J. S. Anderson</i>		7. Reviewed by: (Signature and Date) 2/10/81 C. L. Dixon <i>C. L. Dixon</i>	

Figure 1-1  
Example Federal Assistance Reporting Checklist

Report Distribution List

- A. Cassandra L. Dixon  
Administrative Monitor  
Office of Conversion  
Department of Energy, M.S. 153  
Washington, D.C. 20585
- B. Jason S. Anderson  
Program Manager  
Department of Energy, M.S. 728  
Washington, D.C. 20585
- C. Ad D. Beans  
Financial Officer  
Department of Energy, M.S. 62  
Washington, D.C. 20585
- D. Department of Energy  
Technical Information Center  
P.O. Box 62  
Oak Ridge, TN 37830
- E. Sally Lassar  
Awarding Officer  
Department of Energy, M.S. 1508  
Washington, D.C. 20585
- F. Patent Office  
Department of Energy  
Washington, D.C. 20585

Figure 1-2  
Example Reports Distribution List

# FEDERAL ASSISTANCE BUDGET INFORMATION FORM

FORM 1332-2  
FEB 81

FORM APPROVED  
OMB No. 1020-0177

1. Grant DE-EG-01-00CS456		2. Noise Suppression in Wind Driven Generators	
3. Agency and Address Department of Physics Pierce State University, Piedmont, MD 69021		4. Budgetary Year Start Date 7/1/80	
		5. Completion Date 6/30/81	

## SECTION A - BUDGET SUMMARY

6. Grant Program Function or Activity	7. Federal Granting No. or	8. Estimated Unobligated Funds		9. Size of Requested Budget		
		10. Requested or	11. Non-Request or	12. Requested or	13. Non-Request or	14. Total or
Research & Dev. Solar	81,037	.	.	113,000	-0-	113,000
2						
3						
4						
5. TOTALS		.	.	113,000	-0-	113,000

## SECTION B - BUDGET CATEGORIES

1. Budget Category	2. Grant Program, Function or Activity				3. Total or
	4. Research & Dev. Solar	5. or	6. or	7. or	
a. Personnel	60,535	.	.	.	60,535
b. Fringe Benefits	6,265				6,265
c. Travel					
d. Materials	5,200				5,200
e. Supplies	3,714				3,714
f. Capital					
g. Construction	5,000				5,000
h. Other					
i. Total Direct Charges	80,286				80,286
j. Indirect Charges	32,286				32,286
k. TOTALS	113,000	.	.	.	113,000
7. Program Income	.	.	.	.	.

Figure 1-3.  
Example Federal Assistance Budget Information Form

Figure 1-4  
Example Financial Status Report

DOE 1332.2  
10-31-83

Attachment II-1  
Page II-41

U.S. DEPARTMENT OF ENERGY NOTICE OF ENERGY RD&D PROJECT	
APPROVED FOR USE BY SMITHSONIAN SCIENCE INFORMATION EXCHANGE	
1. Descriptive title of work <b>CONCEPTUAL DESIGN FOR A COMPLETE PILOT SCALE MED/STEAM SYSTEM</b>	
2. Performing organization contract number 15-85000	3. Contract or grant number FG-AC03-807201834
4. Contractor's principal investigator/project manager and address where work is performed	
A. Name (Last, First, MI) <b>DUNDAS, DEWICK</b> B. Phone: FTS- _____	
C. Research organization business address: Street <b>361 NORTH PEABODY STREET</b> City <b>ALBUQUERQUE</b> State <b>COLORADO</b> Zip <b>84799</b>	
5. A. Name of performing organization <b>ROCKY MOUNTAIN UNIVERSITY</b> B. Address (if different from 4C) _____	
C. Give only one code for TYPE OF ORGANIZATION PERFORMING R&D (See instructions: CU RF IN NP ST TA US XX BG)	
6. Sponsoring organization	
A. Program division or office (Full name) <b>ASSISTANT SECRETARY FOR FOSSIL ENERGY</b>	
B. Technical manager (Last, First, MI) <b>JAMES, JAMES V.</b> C. Phone: FTS- <b>254-3000</b>	
D. Address (if different from DOE Head) _____	
E. Administrative manager (Last, First, MI) <b>PERKINS, GAYLORD G.</b> F. Phone: FTS- <b>202-252-3000</b>	
7. Project schedule	
A. Start date <b>MAY 1980</b>	B. Expected completion date <b>APRIL 1982</b>
8. Funding in thousands of dollars. Funds represent budget obligations for operating and capital requirements.	
A. DOE-RA <b>175</b>	
B. _____	
C. _____	
D. For DOE projects, enter budgeting and reporting classification code _____	
E. Interagency agreement (Specify funding agency) _____	
F. Agency in-house effort (Check if applicable) <input type="checkbox"/> _____	
G. EPA "pass-through" funding (Check if applicable) <input type="checkbox"/> _____	
Note: Funding Section contains a listing of Federal Research Assistance Programs, grants, other programs, cooperative agreements, loan guarantees, and other related programs.	
9. Descriptive summary of work (up to 200 words, include objective, approach, results to date and their significance, and expected product. Quarterly where possible.)	
THIS PROJECT IS EXPECTED TO PROVIDE CONCEPTUAL DESIGNS BASED ON EXISTING DATA FOR AN EGY (PILOT-SCALE) PLANT THAT IS A COMPLETE MED/STEAM SYSTEM. A MAJOR GOAL OF THE EGY IS TO PROVIDE COMPONENT, SUBSYSTEM AND SYSTEM DATA NECESSARY FOR SCALE-UP TO COMMERCIAL, DEMONSTRATION-PLANT SIZES. THE EGY IS TO BE CAPABLE OF TESTING FOR 2000 CONTINUOUS HOURS AT DESIGN CONDITIONS.	

Figure 1-5  
Example Notice of Energy RD&D Project



10. List the five most descriptive publications in the last year that are available to the public which have resulted from the project. (Please give a complete bibliographic citation. Use additional sheets if necessary).  <div style="text-align: center; padding: 20px;">N/A</div>			
11. General technology categories (Enter applicable code or codes from instructions). <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">A</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">B</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">C</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">D</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">E</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">F</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">G</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">H</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">I</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">J</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">K</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">L</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">M</div> <div style="border: 1px solid black; width: 20px; height: 20px; text-align: center; line-height: 20px;">N</div> </div>			
12. Type of research activity (Check applicable activities): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;">           A. <input type="checkbox"/> Basic research            B. <input type="checkbox"/> Applied research            C. <input type="checkbox"/> Laboratory scale R&amp;D            D. <input type="checkbox"/> Technology development            E. <input type="checkbox"/> Feas. study            F. <input checked="" type="checkbox"/> Pilot plant scale R&amp;D            G. <input type="checkbox"/> Full scale demonstration         </td> <td style="width: 50%; vertical-align: top;">           H. <input type="checkbox"/> Mechanisms model development            I. <input type="checkbox"/> Data analysis/assessments            J. <input type="checkbox"/> Information systems management            K. <input type="checkbox"/> Policy analysis            L. <input type="checkbox"/> Socioeconomics            M. <input type="checkbox"/> Other (Specify: _____)            N. <input type="checkbox"/> Not applicable         </td> </tr> </table>		A. <input type="checkbox"/> Basic research B. <input type="checkbox"/> Applied research C. <input type="checkbox"/> Laboratory scale R&D D. <input type="checkbox"/> Technology development E. <input type="checkbox"/> Feas. study F. <input checked="" type="checkbox"/> Pilot plant scale R&D G. <input type="checkbox"/> Full scale demonstration	H. <input type="checkbox"/> Mechanisms model development I. <input type="checkbox"/> Data analysis/assessments J. <input type="checkbox"/> Information systems management K. <input type="checkbox"/> Policy analysis L. <input type="checkbox"/> Socioeconomics M. <input type="checkbox"/> Other (Specify: _____) N. <input type="checkbox"/> Not applicable
A. <input type="checkbox"/> Basic research B. <input type="checkbox"/> Applied research C. <input type="checkbox"/> Laboratory scale R&D D. <input type="checkbox"/> Technology development E. <input type="checkbox"/> Feas. study F. <input checked="" type="checkbox"/> Pilot plant scale R&D G. <input type="checkbox"/> Full scale demonstration	H. <input type="checkbox"/> Mechanisms model development I. <input type="checkbox"/> Data analysis/assessments J. <input type="checkbox"/> Information systems management K. <input type="checkbox"/> Policy analysis L. <input type="checkbox"/> Socioeconomics M. <input type="checkbox"/> Other (Specify: _____) N. <input type="checkbox"/> Not applicable		
13. Keywords (Please list 5 keywords). MAGNETO HYDRODYNAMICS STEAM SYSTEMS DEMONSTRATION PLANTS MED/STEAM SYSTEMS MAGNETICS			
14. Is this research project solely an ANALYTICAL/PAPER STUDY? (Non-experiments, paper and pencil, computer studies, etc.) YES _____ NO <u>  X  </u>			
15. Respondent's Name: <u>  DUNDAS, DERRICK  </u> Phone No.: <u>  996-123-1567  </u> Date: <u>  May 15, 1980  </u> Street: <u>  361 NORTH PEARSON STREET  </u> City: <u>  ALCORN, MISSISSIPPI  </u> State: <u>  MISSISSIPPI  </u> Zip: <u>  39499  </u>			

Figure 1-5 (continued)  
Example Notice of Energy RD&D Project (Page 2)

DOE 1332.2  
10-31-83

Attachment II-1  
Page II-43 (and II-44)

DOE Form RA-27 11/8/80		U.S. DEPARTMENT OF ENERGY	OMB NO. 028-00100
UNIVERSITY CONTRACTOR, GRANTEE AND COOPERATIVE AGREEMENT RECOMMENDATIONS FOR ANNOUNCEMENT AND DISTRIBUTION OF DOCUMENTS			
See Instructions on Reverse Side			
1. DOE Report No. DOE/CS/4567		2. Title Noise Suppression Using Advanced Airfoil Design in High Tip Speed Wind Driven Generators	
3. Contract No. Grant DE-FG-01-00CS4367			
4. Type of Document ("X" only)			
<input checked="" type="checkbox"/> a. Scientific and technical report			
<input type="checkbox"/> b. Conference paper			
Title of conference _____			
Date of conference _____			
Exact location of conference _____			
Sponsoring organization _____			
<input type="checkbox"/> c. Other (Specify planning, education, project, market, sales, economic, social, technical, training, etc.) _____			
5. Recommended Announcement and Distribution ("X" only)			
<input checked="" type="checkbox"/> a. DOE's normal announcement and distribution procedures may be followed.			
<input type="checkbox"/> b. More suitable only within DOE and to DOE contractors and other U.S. Government agencies and their contractors.			
6. Reason for Recommended Restrictions _____			
7. Patent and Copyright Information			
Does the information product contain any new invention, process or method? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If so, date, page no. 27			
Has an invention disclosure been submitted to DOE covering any aspect of the information product? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes			
If so, identify the DOE (or other) disclosure number and to whom the disclosure was submitted			
Are there any patent-pending questions to the review of the information product? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If so, date these questions.			
Does the information product contain copyrighted material? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes			
If so, identify the page numbers _____ and attach the letters of other authority for the government to reproduce			
8. Submitted by			
Name and Position (Please print or type)		Name and Position (Please print or type)	
ADAMS, CHARLES W., JR.			
Organization		Organization	
PIERCE STATE UNIVERSITY, DEPARTMENT OF PHYSICS			
Signature <i>Charles W. Adams</i>		Date 7-15-81	
FOR DOE OR OTHER AUTHORIZED USE ONLY			
9. Patent Copyright ("X" only)			
<input type="checkbox"/> a. DOE patent questions has been granted by appropriate DOE patent group.			
<input type="checkbox"/> b. Patent has been sent to appropriate DOE patent group for clearance.			

Figure 1-6  
Example Recommendations for Announcement and  
Distribution of Documents

SUGGESTED FEDERAL ASSISTANCE SOLICITATION  
DESCRIPTION OF THE UNIFORM REPORTING SYSTEM  
FOR FEDERAL ASSISTANCE

1. INTRODUCTION.

- a. Purpose. The uniform reporting system for Federal assistance is a set of standard forms and procedures for communicating plans and reporting the conduct and results of DOE assisted activities. Recipients of DOE grants and parties to DOE cooperative agreements are required to provide DOE with the necessary minimum level of information, through the use of selected forms, to enable DOE to carry out its fiscal accountability and program responsibilities.
- b. Reporting Objectives. Both planning and performance information is provided to the DOE program manager through submission of the selected plans and reports. Planning data depicted in the baseline planning forms provide a summary level cost and schedule baseline against which performance data can be compared to ensure the responsible administration of Federal assistance programs. Performance data collected provide measures of program status and results achieved.
- c. Reporting Requirements. The scope and level of detail of baseline information and the frequency and nature of performance reporting have been determined by the program manager. Proposed reporting requirements are identified in the solicitation. Copies of the baseline plan forms required for this program also are included as part of the application package. The final selection of required reports will be specified in the "Federal Assistance Reporting Checklist" incorporated in the award instrument. The determination of the reports required was made in consideration of the type of activity being assisted, the duration and complexity of the anticipated effort, probable amount of award funding, and relevant Office of Management and Budget guidelines.
  - (1) Baseline, status, and technical reports proposed as requirements for this program are described on the following pages.
  - (2) A complete description of reports is available in the "DOE Uniform Reporting System for Federal Assistance (Grants and Cooperative Agreements) Guidelines," (DOE/MA-001) available from the DOE Technical Information Center, Secondary Distribution, P.O. Box 62, Oak Ridge, TN 37830.

2. BASELINE PLANS.

- a. Federal Assistance Management Summary Report (Form EIA-459E). This report is a single page form on which the applicant enters projected cost and activity data. The cost data to be entered must depict projected total

costs for the life of the project on at least a quarterly basis. The activity data required is a delineation of the project's major milestones and bar charts displaying the projected schedule for attainment of these milestones. This form is used for both the baseline plan when required and for project status reporting.

- b. Federal Assistance Milestone Plan (Form EIA 4598). The milestone plan is used to portray the major milestones of the proposed project in bar chart format. It covers the life of the project and is to be organized by major project activities, such as those performed at work breakdown structure level 2. It is accompanied by the Milestone Log which lists the events and milestones depicted on the Federal Assistance Milestone Plan.
- c. Federal Assistance Budget Information Form (Form EIA 459C). The "Federal Assistance Budget Information Form" is to be used by the applicant to provide summary level data on the proposed project total budget. The total project budget is broken down into Federal and non-Federal funds for each major activity. A second breakdown of the total budget for each major activity by object class of expenditure (i.e., personnel or travel) also is requested.
- d. Federal Assistance Budget Information Form (Construction) (Form 459D). The "Budget Information Form" for construction is to be used by the applicant to provide summary level data on the proposed project total budget. The total product is broken down by cost classification. Space is provided for listing those parts of the project not subject to Federal participation and for showing the proposed method of financing the non-Federal share.

### 3. STATUS REPORTS.

- a. Federal Assistance Management Summary Report (Form EIA 459E). This report is a single page form on which the applicant provides summary cumulative cost and activity data for each reporting period. More detailed instructions are on the back of the form.
- b. Federal Assistance Program/Project Status Report (Form EIA 459F). This report is a single page form on which the award recipient enters brief narrative discussion of the following topics: approach changes; performance variances, accomplishments, or problems; open items; and status assessment and forecast. Each of these topics is addressed, as appropriate, for a given reporting period and the report is submitted periodically, as required, during the life of the project.
- c. Financial Status Report (Standard Form 269). This form is used to provide DOE with regular periodic accounting of project funds expended. The accounting may be on either a cash or accrual basis. Actual total expenditures and obligations incurred, but not paid, are reported for each reporting period for each major activity. They should correlate with those identified on the "Federal Assistance Milestone Plan" when the "Federal Assistance Milestone Plan" is used. Provision is made to identify the Federal and non-Federal share of project outlays for each identified activity.

#### 4. TYPES OF TECHNICAL REPORTS.

- a. Technical Progress Report. This report summarizes the work performed during a specific reporting period. It will include the technical and scientific results achieved. This report is required at least once during the fiscal year on RD&D projects. More frequent submissions, when required, will be identified on the "Reporting Requirements Checklist."
- b. Topical Report. This report provides a comprehensive statement of the technical results of the work performed for a specific task or phase of the contract, or reports detailing significant new scientific or technological advances.
- c. Final Technical Report. This report is required on all RD&D contracts/agreements upon completion of the contract/agreement. It provides a technical accounting of the total work performed on the contract. It is a comprehensive description of the results achieved and will include, to support the investigations undertaken, tabulations of data, figures, photographs, and other bibliographic citations. It summarizes all topical reports and technical progress reports where applicable. The report will include the original hypotheses of the project and present the investigative approaches used, complete with problems encountered or departures from the planned methodology, and an assessment of their impact on the project results. The report format should contain an executive summary of the contents followed by a project summary. The main body should include, where applicable, facts, figures, analyses, and assumptions used during the life of the project to support the conclusions and recommendations. Appendices containing detailed computations and other reference materials may be included.
- d. Journal Articles. Publication in open literature is desirable. When DOE requires a prepublication review and patent clearance, copies of the proposed article must be provided to DOE as identified in the "Reporting Requirements Checklist" special instructions section.
- e. Conference Papers. Participation at conferences related to the contractor's mission is encouraged; however, papers to be presented must be submitted to DOE for review and patent clearance prior to presentation. Requirements for submission of papers will be specified in the special instructions section of the "Reporting Requirements Checklist."
- f. Other Technical Reports/Publications. Requirements for other types of technical reports/publications, such as books, theses, translations, and computer software with scientific applications, will be specified in the solicitation or contract. Copies of these will be provided to DOE for prepublication review and necessary clearances in accordance with the special instruction section of the "Reporting Requirements Checklist."

- g. Notice of RD&D Project (Form DOE 538). This report is required for all DOE operated sites that conduct research and development activities and all contractors performing research who are subject to the uniform reporting system.

## CHAPTER III

### TECHNICAL INFORMATION REPORTING

#### 1. GENERAL.

- a. Scientific and technical information called for or developed under this Order is used by program managers in their technical performance evaluations. Scientific and technical information developed during work supported by DOE shall be reported promptly and fully to the Department's Technical Information Center (TIC) located in Oak Ridge, Tennessee, for inclusion in DOE's information data base; and, as security, patent, and other DOE policy considerations permit, to be made available to the scientific, technical, and industrial communities, and to the public through approved channels. The Technical Information Center is the Department's centralized facility for the management of scientific and technical information developed by DOE and is responsible for developing, designing, implementing, and evaluating Departmentwide systems and programs to effectively manage and disseminate the technical results of the Department's research and development programs.
- b. When a grant is expected to result in the production of scientific and technical information, grantees shall be required to submit at least a "Notice of Energy RD&D Project" (DOE Form 538) and a final technical report.
- c. The publications listed below provide detailed information concerning the reporting and dissemination of scientific and technical information. Implementation procedures for managing the Department's scientific and technical information formerly contained in this Order will be expanded and issued separately by the Technical Information Center in the near future.
  - (1) DOE 1340.1A, MANAGEMENT OF PUBLIC COMMUNICATION PUBLICATIONS, AND SCIENTIFIC, TECHNICAL, AND ENGINEERING PUBLICATIONS.
  - (2) DOE 1430.1, MANAGING THE DEPARTMENT OF ENERGY'S SCIENTIFIC AND TECHNICAL INFORMATION.
  - (3) DOE/TIC-4500, STANDARD DISTRIBUTION FOR UNCLASSIFIED SCIENTIFIC AND TECHNICAL REPORTS.
  - (4) M-3679, STANDARD DISTRIBUTION FOR CLASSIFIED SCIENTIFIC AND TECHNICAL REPORTS.
  - (5) DOE/TIC-4600, DOE TECHNICAL INFORMATION CENTER, ITS FUNCTION AND SERVICES.

## 2. SELECTION OF TECHNICAL REPORTS.

- a. The solicitation will describe the general technical reporting requirements that are expected for grants or cooperative agreements. The DOE program manager will determine which reports will be required, their frequency of submission, and their distribution within DOE based on the scope of the grant or cooperative agreement. Descriptions of the reports are included in Attachment 1. Figure III-1 presents suggested DOE distribution and submission frequency for technical reports. These requirements are recorded on the "Federal Assistance Reporting Checklist," and the appropriate addressees for distribution are noted on the distribution list.
- b. When determining the reporting requirements, the program manager should consider:
  - (1) Federal Government policy to the extent that the type and frequency of reports should be the minimum necessary to permit DOE to meet its responsibilities effectively.
  - (2) Other pertinent policies and directives of DOE such as the publications listed in paragraph 1c.
  - (3) Applicable policies, directives, and criteria established by the responsible DOE organization, such as the program division.
  - (4) Personal knowledge of the nature and scope of the technical work to be performed, and an assessment of the rate at which technical information will be developed, become available, and be disseminated.
  - (5) The Department's requirements that a technical progress report and a "Notice of Energy RD&D Project" must be submitted at least once each year, and that a final technical report be submitted at the completion/termination of all research, development, and demonstration grants/cooperative agreements. For projects one year or less in duration only a final technical report is submitted.
- c. At least two full-size copies of the scientific and technical reports are required for TIC. Both copies must be suitable for reproduction and microfiche. The program manager shall ensure that if organizations print scientific or technical reports for their own use, a sufficient number of copies are also printed for standard distribution.
- d. Distribution other than the standard distribution shall be coordinated with TIC. Standard distribution and other distribution coordinated with TIC is referred to as official distribution.



Frequency Guide for Technical Reports

	Frequency*
TECHNICAL PROGRESS REPORT	Y
TOPICAL REPORT	A
FINAL TECHNICAL REPORT	F
JOURNAL ARTICLES	A
NOTICE OF ENERGY ROAD PROJECT	O, Y

\* An annual Technical Progress Report and Notice of Energy ROAD is the suggested minimal requirement.

Legend

O Contract Award  
Y Yearly or upon contract award  
A As required  
F Final report

Guide for Technical Reports

Report Type Distribution	TECHNICAL PROGRESS REPORT	TOPICAL REPORT	FINAL TECHNICAL REPORT	JOURNAL ARTICLE MANUSCRIPT	JOURNAL ARTICLE REPORT	CONFERENCE PAPER OR PROCEEDINGS	TRANSLATIONS	THESES	BOOKS	NOTICE OF ENERGY ROAD PROJECT	No. of Copies
Project Manager	4	4	4	4	4	4	4	4	4	1	
Contract Administrator	1	1	1	1	1	1	1	1	1	1	
Patent Counsel	1	1	1	1	1	1	1	1	1	1	
TIC	2/	2/	2/	2/	2/	2/	2/	2/	2/	2/	

2/ Printed copies as called for in DOE 1430.1 and other TIC guidance.

Figure III-1  
Frequency and Distribution of Technical Reports

APPENDIX I

QUALIFICATION CRITERIA  
CERTIFICATIONS

Certification Letter for Qualification Criteria

2.0(a)(v)

Clean Air Act Compliance

I, the undersigned, the authorized representative for

\_\_\_\_\_  
Name of Company

for the proposal entitled \_\_\_\_\_  
Name of Proposal

which was submitted to the Department of Energy for financial assistance under Program Opportunity Notice DE-PS01-86FE60966, do hereby certify that the technology, alone or in conjunction with other technologies, in the market applications that have been specified in the aforementioned proposal is, at a minimum, capable of complying with all Federal and State regulations promulgated as of January 1, 1986, pursuant to the Clean Air Act as amended and which are applicable to the regions of the U.S. where commercialization of the technology is anticipated.

\_\_\_\_\_  
Typed Name and Title of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Authorized Representative

Certification Letter for Qualification Criteria

2.0(a)(iii)

Mandatory Minimum Cost-Sharing

By submission of this proposal under PON DE-PS01-86FE60966, the offeror certifies that the Government's share of the costs involved in the proposed demonstration will not exceed 50 percent of the total costs of the demonstration and the offeror will cost-share to the extent of at least 50 percent in each of the following three phases of the demonstration:

- (1) Design and Permitting
- (2) Construction and Startup ("Shakedown")
- (3) Operation, Data Collection, Reporting, and Disposition

\_\_\_\_\_  
Name of Offeror

\_\_\_\_\_  
Typed Name and Title of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Authorized Representative

APPENDIX J

INFORMATION REQUIREMENTS  
FOR THE NATIONAL ENVIRONMENTAL  
POLICY ACT

## Information Requirements for the National Environmental Policy Act

A self-contained Volume of Environmental Information on the proposed project must be submitted to DOE by the proposers whose projects are awarded cooperative agreements. The information will be used to facilitate DOE's preparation of the environmental documents required to comply with the National Environmental Policy Act of 1969 (NEPA). The details provided are not intended to be prescriptive. In some cases, the details may not be applicable to an offeror's proposal, and in other cases, the detail given may not be sufficient to cover all applicable environmental, health, safety, and socioeconomic impacts. The level of information should be compatible with the nature of the project and its stage of development.

### 1.0 SUMMARY

The participant should prepare a short summary of the environmental, health, safety, and socioeconomic information and analysis. The summary should focus on:

- o the potential beneficial and detrimental environmental, health, safety, and socioeconomic impacts which will result from the proposal;
- o the major environmental, health, safety, and socioeconomic risks to construct, operate, and dismantle or dispose of the proposed facility;

- o conclusions which can be made about the significance of predicted environmental, health, safety, and socioeconomic effects;
- o anticipated near-term changes or additions to applicable environmental and other regulations, and related plans to use best control technology and practices economically feasible to meet the anticipated requirements;
- o alternatives available for meeting regulations and mitigating impacts; and,
- o all unresolved environmental, health, safety, and socioeconomic issues and unquantifiable effluents/emissions which may affect the validity of the impact analysis, especially the details for which information is not available at this stage of project development.

## 2.0 EXISTING SITE CHARACTERISTICS

This section provides a description of the environmental setting of the proposed project. Information should be provided for the site, or representative sites. It is expected that proposers will use existing data sources (i.e., Census, EPA and USGS for ambient air and surface water monitoring, and appropriate state and federal agencies and publications, etc.). Data from these and other sources are generally readily available and can be easily accessed.

- o Brief description, using visuals as appropriate, of project site
  - description of physical appearance,

- description of existing landforms such as drainage areas, runoff areas, etc., and
  - description of existing offsite facilities such as pipelines and transmission lines, transportation access, water sources, etc.
- o Description of environmental setting including a description of the environmental conditions based on available or existing information prior to the proposed project. The description should provide sufficient information to permit independent evaluation by reviewers of factors that could be affected by the proposed project, and should include photographs or illustrations to provide the reviewers with visual orientation to the existing environment. USGS maps may also be useful to relate the conditions described to specific areas.

The following environmental factors may be applicable if the Consequences of Project (4.0 below) indicate a potential significant change from existing conditions. If sampling data are used to describe the environmental conditions, the relationship of the sampling point to the proposed facility should be shown.

- atmospheric conditions, including downwind conditions; identification of affected air quality control region(s); local climate conditions; existing ambient air quality; conditions/features downwind that may be impacted.



- hydrologic conditions, including identification of watershed and downstream drainage; surface and groundwater quality to be impacted; conditions downstream or within drainage areas including flood plains; unique aquatic habitats; water recreation areas and public water supplies; hydrologic hazard such as flood or storm runoff.
- geologic conditions including erosion potential; seismic hazards; topographic stability and features; description of formations and faulting; productivity of soil, soil species.
- ecological conditions including endangered species; flora, fauna, and wildlife; unique ecological or sensitive communities.
- socioeconomic conditions including population, migrational trends, employment and labor mix, available public services.
- aesthetic conditions including scenic vistas, historic/archaeological sites, cultural values.
- tribal or other religious practices at or near the proposed project.
- identification of any other major energy or chemical complexes planned sufficiently close to the site to mutually impact environmental, health, safety, or socioeconomic considerations.

### 3.0 PROJECT DESCRIPTION

This section should provide the following information as it relates to facility requirements, overall plant site and setting, and the plant/process residuals, as appropriate.

- o Project resource requirements, including energy form and quantity, land, water, labor, construction and operation materials, etc.
- o Project site plan and topographic maps, if appropriate, including:
  - description of physical appearance, and
  - description of fuel storage area, drainage and runoff patterns.
- o Offsite facility requirements including:
  - pipelines and transmission lines,
  - transportation access (rail, road, barge), and
  - water intake and discharge.

- o In-plant and "over the fence" discharges, and on-site waste storage during construction, operation, maintenance, and disposition of the project including:
  - quantity, physical and chemical description of air emissions (including fugitive emissions), liquid effluents, solid wastes, and other discharges (including heat, noise, and odor),
  - identification of existing and, where possible, anticipated standards for those areas of environmental concern that are regulated, and
  - description of mitigating measures employed in the project to reduce potential environmental effects.

#### 4.0 CONSEQUENCES OF THE PROJECT

This section should contain the following information concerning impacts and consequences of the project (at selected site and the alternative sites, if appropriate). Plans for offsetting such impacts should be included. This section should also include a summary and ranking of the consequences in the approximate order of decreasing risk to project implementation. The ranking within each subsection should be based on consideration of items such as: a) nature and magnitude of impact; b) uncertainty in the effectiveness of proposed environmental controls; c) lack of definitive data on plant streams; and, d) uncertainties in anticipated regulations.

Detail of subsequent discussion should be commensurate with assessed risks.

## 1. Consequences of Construction

- o Overall description of construction activities, including disruption, duration, schedule, etc.
- o Environmental, health, and safety impacts, including;
  - atmospheric impacts, including projection of air quality degradation;
  - hydrologic impacts, including changes in groundwater/surface water quality and quantity, and stream diversion;
  - land use impacts during and after construction activities;
  - public and occupational health consequences of construction activities, including accidents; and
  - ecological impacts.
- o Socioeconomic impacts.

## 2. Consequences of Operation and Disposition

- o Environmental, health, and safety impacts as a result of project operation and disposition including mitigating measures, and an indication if impacts from other "nearby" planned energy or chemical complexes are included in the projected impacts.
- Atmospheric impacts, including projection of air quality degradation (give indication of atmospheric models used, if used in projection).
- Hydrologic impacts, including changes in groundwater/surface water quality and quantity, from runoff from storage piles, leachates from waste disposal sites and wastewater cleaning and discharges.
- Land use impacts resulting from solid waste disposal (including toxic and hazardous substances) or other discharges.
- Geologic impacts, including subsidence, seismicity, erosion, stream diversion, flood plain intrusion, soil permeability and infiltration, integrity of solid waste disposal sites, etc.
- Public and occupational health and safety impacts, including exposure to toxic and hazardous substances, noise, odor, and potential accidents.

- Ecological impacts.
- Impact on regional or local plans for fuel, water resources, solid waste, land, air quality and labor force.
- Irreversible/irretrievable commitment of resources and opportunities to reuse and recycle resources (wastes, water).
- Socioeconomic impacts.
- Aesthetic impacts, including visual impacts.
- Impact on tribal or other religious practices and sites; and potential impact on community character.

## 5.0 REGULATORY COMPLIANCE

This section should identify the major environmental laws, and regulations (federal, state, and local) for which compliance will be necessary prior to implementation of the project. The offeror should discuss the following:

- o Preliminary description of best control technology and practices feasible that would be employed to obtain compliance with identified environmental and occupational requirements, and
- o Preliminary assessment of environmental monitoring requirements, and tentative schedule to file for and obtain major permits.

### Information Necessary for Evaluating Impacts to Water Resources

Previously, the Water Resources Council developed assessments of water resource requirements and water supply availability for any non-nuclear energy technology research and development project under the Federal Non-nuclear Energy Research and Development Act. Since the Water Resource Council is no longer a functioning body of the Federal Government, water assessments are no longer required. However, because the Clean Coal Technology Program may result in projects for which water resource requirements and water availability may be important issues, the following information should be included in the NEPA documentation prepared for those projects:

1. Provide data on water supply and demand within the geographical area of the proposed project;
2. Provide a discussion on the constraints upon water availability imposed by treaties, compacts, court decree, state water laws, and water rights granted pursuant to state and federal law;
3. Assesses the effects of the technology development on water quantity;
4. Provide estimates of cost associated with production and management of the required water supply, and the cost of disposal of waste water generated by the proposed project; and,

5. Provide an assessment of the environmental, social, and economic impact of any change in use of currently utilized water resources that may be required by the proposed project.

If water resource requirements and water availability are not significant issues, information should be included in the NEPA documentation to substantiate this fact.



**SYNTHETIC FUELS CORPORATION****Final Environmental Monitoring Plan Guidelines**

**AGENCY:** U.S. Synthetic Fuels Corporation.

**ACTION:** Publication of Final Environmental Monitoring Guidelines.

**SUMMARY:** This notice publishes the Environmental Monitoring Plan Guidelines (the "Guidelines") which were adopted in final form on July 28, 1983, by the Board of Directors of the U.S. Synthetic Fuels Corporation to carry out the requirements of Section 131(e) of the Energy Security Act, Pub. L. 96-294, relating to environmental monitoring. Interim Final Guidelines were published in the Federal Register on April 1, 1983 (48 FR 14108-14113) and public comments were solicited at that time. Comments were received from industry, federal, state, and local agencies, Congress, and others.

**EFFECTIVE DATE:** July 28, 1983.

**FOR FURTHER INFORMATION CONTACT:** Steven M. Gottlieb, Director of Environment, U.S. Synthetic Fuels Corporation, 2121 K Street, NW., Washington, D.C. 20586, (202) 822-6316.

For Copies of the Guidelines: Catherine McMillan, Director of Public Disclosure, U.S. Synthetic Fuels Corporation, 2121 K Street, NW., Washington, D.C. 20586, (202) 822-6316.

**SUPPLEMENTARY INFORMATION****A. Background**

Section 131(e) of the Energy Security Act (Pub. L. 96-294, 42 U.S.C. 8701, 8731) specifies that a Project Sponsor or Sponsors receiving financial assistance from the United States Synthetic Fuels Corporation (the "Corporation") shall develop, in consultation with the Environmental Protection Agency ("EPA"), The Department of Energy ("DOE"), and appropriate state agencies ("Consulting Agencies"), an Environmental Monitoring Plan ("Plan") acceptable to the Corporation's Board of Directors. These Guidelines set forth the procedural steps to be taken and the broad substantive areas to be addressed in development of such Plans and the Environmental Monitoring Plan Outlines ("Outlines") upon which they are based.

The following section (Section B) discusses the major comments received by the Corporation on its Interim Final Guidelines and the Corporation's responses thereto. Section C describes revisions made to the Interim Final Guidelines by the Corporation based on its own review, i.e., not in response to specific comments received. To the

extent practical, the changes discussed in each of these two sections are presented in the order in which they occur in the Guidelines.

#### **B. Comments Received and Corporation Response**

1. *Monitoring required by the Corporation is redundant to regulatory requirements.* New language has been added to Sections IV and VII.B of the Guidelines to clarify that the Corporation does not seek to impose redundant monitoring requirements on the Sponsor. Section IV of the Guidelines has been amended to emphasize that the purposes for including Compliance Monitoring in Outlines and Plans are to enable the Corporation to obtain copies of the monitoring data already being generated pursuant to a Project's permits and other governmental approvals as well as to provide the basis for determining the appropriate scope of Supplemental Monitoring (i.e., monitoring specified in an Outline or Plan which is not required by federal, state, and local permits, approvals, and other regulatory obligations). Language added to Section VII.B further emphasizes that the Corporation does not require any monitoring activities that are redundant to those required by a Project's permits, approvals, or other regulatory obligations.

2. *Monitoring of socioeconomic and water-use impacts should be required as part of the Monitoring Outlines and Plans.* The Corporation has not amended the Guidelines in response to this concern other than to incorporate a minor language change in Section IV to clarify the Corporation's previously stated intention not to require such monitoring in Outlines and Plans but rather to require such monitoring in appropriate cases as part of the Financial Assistance Agreement. The language in Section 131(e) which refers to the "monitoring of environmental and health-related emissions" does not appear to contemplate that socioeconomic and water consumption monitoring would be required pursuant to this provision, and therefore such monitoring is not included in the Guidelines. However, other provisions of the Energy Security Act (particularly Section 131(b)) provide the Corporation with the authority to require such monitoring outside of the Section 131(e) environmental monitoring process. The Corporation recognizes the importance of such monitoring and will require, by specific terms of the Financial Assistance Agreements, that the Project Sponsor perform socioeconomic and water consumption monitoring in

appropriate cases to determine Project-related impacts in these areas. While a formal consultation process between the Sponsor and the Consulting Agencies on these matters is not contemplated by statute, the Corporation intends to consult informally with appropriate agency officials on the scope of these monitoring requirements.

3. *An adequate description of the acceptability criteria is not provided.* The Guidelines have been amended to include the specific criteria by which an Outline or a Plan will be judged by the Corporation to be acceptable or not acceptable (Section VI). These criteria provide specificity to both the Project Sponsor and Consulting Agencies regarding those items which must be included in acceptable Outlines and Plans.

4. *The Corporation and the Consulting Agencies—or, alternatively, the Sponsor—should have the burden of justifying the need to monitor specific unregulated substances and of providing threshold values above which these substances must be monitored.* No amendment has been made in the Guidelines with regard to assigning a burden to any of the parties involved in developing an Outline or Plan requiring them to justify the need for specific monitoring relating to unregulated substances. The Corporation expects that during the consultation process the Project Sponsor and Consulting Agencies will provide justification to one another for proposing to include or exclude specific monitoring activities or protocols in an Outline or Plan. Ordinarily, these exchanges will be sufficient to enable the Sponsor and Consulting Agencies to resolve most issues among themselves. Where disagreement remains, the Corporation will, based on the justification provided, review the merits of each party's opinion as part of its acceptability review of an Outline or Plan. The Corporation feels that this procedure is sufficient to establish sound monitoring Outlines and Plans without assigning a formal "burden" to any of the parties to the process.

5. *Site-specific monitoring which is not applicable to replication should be required.* No change has been made in the Guidelines' requirements that site-specific monitoring be considered where it would yield information relevant to replication (Section VII.C). Language was added to Section VII.D.4 to clarify that replication refers to development of synthetic fuels plants in the same vicinity or in similar settings. It should be noted that the exemption from site-specific monitoring provided for by the

Guidelines is a limited one for two reasons: (1) Site-specific monitoring will often have applicability to project replication for future facilities located in the same area or similar environmental settings and, therefore, would be appropriate as part of the Sponsor's Supplemental Monitoring program, and (2) site-specific monitoring is often required by permit, federal lease, or other requirements, and, therefore, would be included in the Compliance Monitoring section of the Sponsor's Environmental Monitoring Plan.

6. *The monitoring of unit operations—for which emissions have been well characterized should not be required.* The Guidelines have been amended (Section VII.C) so that monitoring of emissions will not be required for those unit operations (e.g., certain coal preparation operations) which are common to other industries and for which comprehensive emissions data (including data on unregulated substances of environmental or health concern) are available. Where a substantial emissions data base already exists, further monitoring would be redundant.

7. *Monitoring of wastes disposed of off-site should be required.* The Guidelines have been amended to require Sponsors to monitor solid or hazardous wastes to be shipped off-site when the receivers of such wastes are not required to monitor them (Section VII.D.1). This avoids the situation where potentially hazardous synthetic fuels wastes would not be monitored either at the generating or the receiving end, as would occur in the case of certain synthetic fuels wastes which are presently exempted from hazardous waste regulations under the Resource Conservation and Recovery Act.

8. *A common Worker Registry format should be required or, alternatively, Sponsors should be permitted to develop their own formats.* The Guidelines have been amended to direct the Sponsor to work with the Consulting Agencies to promote a common Worker Registry format (Section VII.D.3). (DOE, in particular, will focus on matters relating to Worker Registries.) A common Worker Registry format would allow the data in the Worker Registries of several Sponsors to be consolidated easily, thus increasing the size of the data base and improving the statistical validity of epidemiological studies utilizing the data. In addition, the Guidelines also direct the Sponsor to maintain the Worker Registry for the life of the Project because it is essential that occupational health and safety data be collected and maintained over a period

of time sufficient to assess the chronic, as well as the acute, occupational health and safety impacts resulting from the construction and operation of synthetic fuels facilities.

9. *The reporting requirements are excessive.* The Guidelines (Section IX) eliminate the requirement for monthly monitoring reports. Requiring monthly reports would place an unreasonable burden on the Sponsor relative to the value of obtaining data on a monthly basis. The data summaries required in the Sponsor's quarterly reports will provide sufficient detail for developing the Corporation's information base. In any event, the Corporation will retain the right of access (through terms of the Financial Assistant Agreement) to the Sponsor's raw monitoring data should the need arise to review these data. The Guidelines (Section IX) also eliminate the requirement for analysis of data in quarterly reports, because the amount of monitoring data generated during each quarter generally would not be sufficient to provide the basis for meaningful statistical analyses of trends and patterns. Data analyses continue to be required in annual reports.

10. *Supplemental Monitoring data should be treated as confidential information or, alternatively, Supplemental Monitoring data should be publicly available.* No amendment has been made in the Guidelines' requirements that monitoring information will be made available as authorized by law and that public information requests will be handled in accordance with the Corporation's Guidelines on Disclosure and Confidentiality. Several points are relevant to the comments received. The monitoring information submitted to the Corporation will primarily relate to emissions and ordinarily is not considered to be confidential because it generally cannot be used, absent other data, to deduce proprietary process information. In addition, most monitoring information will be presented in the form of summaries and analyses, which removes it and additional step from compromising proprietary process information. With regard to the specific case of data from the monitoring of environmental control systems which may be considered proprietary, a footnote has been added (Footnote 9) which provides for submission of non-proprietary summaries.

The Guidelines have been amended to require that a Sponsor's Environmental Monitoring Plan identify those types of information that are expected to be proprietary and those that are not

(Section X). To facilitate release of non-confidential information, the Corporation will work with each Sponsor to determine, in advance of submission of information, generic areas of information to be generated during monitoring that should not be treated as confidential. Advance determinations will be required. Sponsors to make information publicly available which is properly designated confidential; further, a stamp of "confidential" in accordance with an advance determination will not restrict the Corporation from reviewing the appropriateness of any claim of confidentiality in accordance with its "Guidelines on Disclosure and Confidentiality." Where information is properly designated as confidential, the Corporation may, where appropriate, encourage a Sponsor to make information available to interested agencies upon conditions acceptable to the Sponsor.

The Corporation anticipates that most monitoring information can be made available to the Consulting Agencies and, as appropriate, to other interested agencies without requiring a separate formal request to the Corporation to receive each data submittal made by a Sponsor. The public will have access to non-confidential information through minutes of Monitoring Review Committee meetings, quarterly reports, annual reports, and requests for information made under Section 121 of the Energy Security Act.

11. *Interested citizens and agencies other than the Consulting Agencies do not have opportunities to provide meaningful input to (1) the development of Environmental Monitoring Outlines and Plans, and (2) the review of data generated by monitoring activities.* No revisions to the Guidelines were deemed necessary to address this comment. The Corporation makes all Outlines and Plans (including drafts) and Consulting Agency comments publicly available through the Corporation's Public Reading Room (Section X), and encourages state Consulting Agencies to make Outlines and Plans available locally (Footnote 10). The public may comment at any time on these documents. With regard to input by agencies not designated as Consulting Agencies (Section 131(e) designates EPA, DOE, and the appropriate state agencies as the Corporation's sole Consulting Agencies), the Guidelines do not provide for project-specific consultation from other agencies. However, the Corporation has sought, and will continue to seek, input by agencies not designated as Consulting

Agencies regarding generic issues, i.e., those which are not specific to any particular Outline of Plan. Also, such agencies can provide (and in some cases already have provided) input relating to project-specific matters to the Consulting Agencies.

The formal mechanism for review of monitoring data and developing recommendations for modification of Monitoring Plans is the Monitoring Review Committee, which is comprised of representatives of the Sponsor, the Consulting Agencies, and the Corporation (Section XI). Other agencies and the public can review such data through access to quarterly and annual monitoring reports and minutes of the Monitoring Review Committee meetings. Further, other agencies and the public may submit comments on any aspect of a Project's monitoring activities.

12. *Supplemental monitoring should be limited by a cost ceiling or a time limitation.* The Guidelines were not amended to require a cost ceiling for Supplemental Monitoring because the Corporation feels that in order for Supplemental monitoring activities to be scientifically sound they should be developed independent of the constraints of such a ceiling. Also, no single method or formula for setting a cost ceiling could properly be applied to all Projects, since the proper level of Supplemental Monitoring required for Projects will vary according to their processes, feedstocks, control technologies, etc., as they relate to potential environmental concerns. Additionally, the Corporation does not believe that fixing a cost ceiling for Supplemental Monitoring is essential because once Outlines and Plans are found acceptable by the Corporation, the scope of the Supplemental Monitoring programs, including specific monitoring tasks, monitoring frequencies, and duration of monitoring, is defined. Furthermore, the offset provision of the Guidelines (Section XI.B.2), which limits the extent of Supplemental Monitoring under normal circumstances to that specified in the Plan, will prevent increases in Supplemental Monitoring costs (see following section).

While no costs ceilings will be imposed, the Guidelines continue to provide that the Corporation will consider the costs to the Sponsor of Supplemental Monitoring relative to its potential benefits as part of its determination of acceptability of both Outlines and Plans (Section VI). However, any explicit cost/benefit approach to setting a cost ceiling would not be practical because the benefits of

each Supplemental Monitoring task cannot readily be quantified, particularly prior to evaluating the results of its implementation. With respect to imposing a time limitation on Supplemental Monitoring, one of the acceptability criteria added to the Guidelines (Section VI) indicates that Supplemental Monitoring should continue only as long as necessary to produce a statistically sound body of data. The Corporation's intention is that Supplemental Monitoring is not necessarily required for the entire life of a Project, but rather should be continued until consistency in trends and patterns in the Project's emissions can be established with a high degree of certainty. (This does not apply to worker exposure monitoring, medical surveillance, or maintenance of Worker Registries since long-term monitoring, i.e., for the life of the Project, is necessary for meaningful characterization of occupational health and safety impacts.) The Guidelines were amended (Section V.B) to direct the Sponsor to state the approximate duration of each monitoring task in the Outline, and to provide more specific details on duration in the Plan. The duration specified in the Plan can be subsequently modified, as appropriate, to achieve the statistically sound body of data referred to in the Guidelines.

13. *The offset provision is scientifically unsound.* The Guidelines have not been amended with respect to the basic approach of the "offset provision" (Section XI.B.2) which states that under normal circumstances the Corporation will not require Supplemental Monitoring beyond that specified in the Plan unless the costs of the additional requirements have been, or are being, offset by the elimination of comparable costs. (The Guidelines' offset provision applies only to Supplemental Monitoring; the Corporation will not, and indeed cannot, authorize any changes to a Sponsor's Compliance Monitoring tasks.) A minor revision was added in the form of a footnote (Footnote 12) which specifies that offsets will not apply when monitoring tasks are modified or added because of changes in production, process, pollution control, or feedstock.

In the Corporation's view, the fundamental reason that "new" Supplemental Monitoring should not be required without a comparable reduction in existing Supplemental Monitoring requirements is to assure the Sponsor that it will not be subject to the prospect of an ever increasing monitoring burden. Moreover, this approach will ensure that a Sponsor's

monitoring focuses on those areas of greater health or environmental concern. It is anticipated that over time some Supplemental Monitoring activities will, in relative terms, be of diminishing importance and can be eliminated or reduced in frequency when important new monitoring activities are deemed necessary. In the event that all monitoring activities appear to be essential and none should be eliminated or reduced in frequency—a situation which the Corporation does not "normally" expect to find—important Supplemental Monitoring activities can still be added to a Sponsor's monitoring program because the Guidelines give the Corporation the flexibility not to provide for comparable reductions where appropriate.

14. *Proper maintenance of the Sponsors' monitoring programs is not assured after termination of the Corporation.* The Energy Security Act directs the U.S. Department of Treasury to carry out the Corporation's function after termination of the Corporation.

#### C. Other Revisions to the Guidelines

The Corporation has made a number of additional revisions to the Guidelines based on its experience in implementing the Interim Final Guidelines and not in response to any particular comments received.

1. *Soil Monitoring.* The Corporation has amended the Guidelines to clarify and limit soil monitoring requirements (Section VII.D.2) so as not to require the Sponsor to monitor soil when no contamination has actually taken place. Soil monitoring, other than that required by permit, is required only when unregulated substances which have the potential to contaminate soil actually come into contact with it (as in the case of a product spill) and have a reasonable likelihood of being present in concentrations of environmental or health concern.

2. *Toxicological Testing.* The Guidelines no longer require that toxicological testing be considered by the Sponsor. This change was made because: (1) Toxicological testing is often open ended and could represent an unreasonable cost burden relative to other parts of the monitoring program; and (2) such testing is in the nature of a research and development function which is more appropriately addressed by federal agencies and research institutions.

3. *Other Supplemental Monitoring.* The Guidelines have been amended to provide that certain types of Supplemental Monitoring, such as ecological monitoring and monitoring of public nuisances (e.g., noise and odor),

are not required except where source emissions data and other information indicate there is reason to believe that the Project could cause significant impacts in these areas (Section VII.D.4). The Sponsor is required only to indicate its commitment, in both the Outline and Plan, to perform such monitoring when circumstances warrant, as determined by the Sponsor or the Monitoring Review Committee. Requiring such monitoring when there is no indication of a potential problem would be inappropriate and burdensome.

#### 4. Monitoring Review Committee.

Two amendments were made to the Guidelines to ensure the timeliness of action of the Monitoring Review Committee and proper documentation of its meetings. First, the Monitoring Review Committee shall meet shortly after the issuance of the annual monitoring report by the Sponsor (Section XI.A). Second, minutes of each Committee meeting will be prepared by the Corporation (Section XI.B.1).

5. *Clarity.* The Corporation has added a definitions section and made numerous organizational and editorial changes to the Guidelines to improve their clarity. Also, specific acceptability criteria have been added (Section VI) to define the basis on which the Corporation's acceptability determinations will be made. Overall, all of the changes made, whether in response to comments or otherwise, have been designed to set forth a clear basis by which the Sponsor can achieve a sound monitoring program.

#### United States Synthetic Fuels Corporation Environmental Monitoring Plan Guidelines

##### Contents

- I. Purpose
- II. Statutory Basis
- III. Definitions
- IV. General Approach To Implementing Section 131(e)
- V. Developing Environmental Monitoring Outlines and Plans
  - A. General
  - B. Contents of Outlines and Plans
  - C. Development of Outlines
  - D. Development of Plans
- VI. Determination of Acceptability
- VII. Scope of Monitoring
  - A. General
  - B. Compliance Monitoring
  - C. Supplemental Monitoring
  - D. Substantive Monitoring Areas
    - 1. Source Monitoring
    - 2. Ambient Monitoring
    - 3. Worker Health and Safety Monitoring
    - 4. Other Monitoring
- VIII. Quality Assurance/Quality Control
- IX. Data Management Reporting Requirements

**X. Confidential Information****XI. Monitoring Review Committee****A. Membership: Meetings****B. Functions**

1. Data Review
2. Modification of Monitoring Requirements

**XII. Amendments to Guidelines****I. Purpose**

Section 131(e) of the Energy Security Act (Pub. L. 96-294, 42 U.S.C. 8701, 8731) specifies that a Project Sponsor or Sponsors receiving financial assistance from the United States Synthetic Fuels Corporation (the "Corporation") shall develop, in consultation with the Environmental Protection Agency ("EPA"), the Department of Energy ("DOE"), and appropriate state agencies, an Environmental Monitoring Plan acceptable to the Corporation's Board of Directors. In implementing this statutory mandate, the Corporation is utilizing a two-stage approach under which the Sponsor: (1) Develops an *Outline* of its Environmental Monitoring Plan, which will be incorporated into the Financial Assistance Agreement, and (2) develops an Environmental Monitoring *Plan* (based on the Outline) after the Financial Assistance Agreement is executed.

The purpose of these Guidelines is to set forth the procedural steps to be taken and the broad substantive areas to be addressed in developing Outlines and Plans. The Guidelines provide the basis on which the Corporation will determine the acceptability of Outlines and Plans. However, the Guidelines do not specify the substantive details required for an acceptable Outline or Plan since the actual development of an Outline and Plan is the responsibility of the Sponsor, in consultation with the appropriate agencies, and their contents will depend, in part, on the project-specific factors.

**II. Statutory Basis**

Section 131(e) of the Energy Security Act requires that:

Any contract for financial assistance shall require the development of a plan, acceptable to the Board of Directors, for the monitoring of environmental and health-related emissions from the construction and operation of the synthetic fuels project. Such plan shall be developed by the recipient of financial assistance after consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, and appropriate state agencies.

The Conference Committee's Joint Explanatory Statement relating to this provision states, in pertinent part:

the monitoring of emissions—gaseous, liquid or solid—and the examination of waste problems, worker health issues and other

research efforts associated with any synthetic fuels project \* \* \* will help to characterize and identify areas of concern and develop an information base for the mitigation of problems associated with the replication of synthetic fuels projects. The Corporation is not expected to involve itself in the development or execution of such plans except for the necessary approval. The conferees intend that development of the plans and actual data collection be reserved to the applicants for financial assistance after consultation with appropriate federal and state agencies. (Joint Explanatory Statement of the Committee of Conference, pp. 208-209 of Compilation of the Energy Security Act of 1980.)

**III. Definitions**

**A. Ambient Monitoring:** Monitoring of substances found (or projected to be found) in a project's emissions and discharges in the unconfined environment, including the air, water, and land in the vicinity of the Project.

**B. Comparable Permit:** A permit for a similar synthetic fuels facility or process, or an analogous facility or process in a non-synthetic fuels industry.

**C. Compliance Monitoring:** Environmental and health monitoring required by federal, state, and local permits, approvals, and other regulatory obligations, including (1) monitoring specified in any federal or state environmental impact statement or agency record of decision relating thereto, and (2) monitoring pursuant to federal or state lease requirements.

**D. Consulting Agencies:** The Administrator of the Environmental Protection Agency, the Secretary of Energy, and appropriate state agencies. The Administrator, the Secretary, and the Governor of the state in which the Project is located each designate a representative to perform the function of the respective Consulting Agency.

**E. (The) Corporation:** The United States Synthetic Fuels Corporation.

**F. Environmental Monitoring Outline (or Outline):** A summary of a Sponsor's monitoring obligations, as described in Section V.B.

**G. Environmental Monitoring Plan (or Plan):** A detailed description of a Sponsor's monitoring obligations, as described in Section V.B.

**H. Financial Assistance Agreement:** An agreement between the Corporation and the Sponsor providing for loans, loan guarantees, price guarantees, or joint venture assistance or a combination thereof.

**I. (The) Guidelines:** The Environmental Monitoring Plan Guidelines of the United States Synthetic Fuels Corporation

**J. Project:** Facilities for the production of synthetic fuels as described in the

Financial Assistance Agreement and any dedicated mining operation at the Project site which is wholly or principally controlled by the Sponsor.

**K. Quality Assurance/Quality Control:** Activities and procedures designed to ensure that all information, data, and analyses resulting from monitoring are technically valid, accurate, precise, and reliable.

**L. Source Monitoring:** Monitoring of air emissions, water effluents, and solid wastes which are released from a Project's vents, stacks, pipes, etc., as well as the monitoring of fugitive air emissions from Project-related activity.

**M. Sponsor:** The entity or entities seeking financial assistance for a Project from the Corporation.

**N. Supplemental Monitoring:** Monitoring specified in an Outline or Plan which is not required by Compliance Monitoring.

**O. Worker Registry (or Registry):** A record-keeping system which integrates different types of occupational health and safety information, including worker exposure data, medical records, demographic data, and job classification.

**IV. General Approach to Implementing Section 131(e)**

The Corporation views the identification and characterization of areas of concern and the development of an information base for the mitigation of problems associated with the replication of synthetic fuels projects to be the fundamental purpose of environmental and health monitoring pursuant to Environmental Monitoring Plans under Section 131(e). Toward this end, the Corporation requires that the Sponsor perform a broad range of monitoring activities related to potential environmental and health impacts of its Project. While socioeconomic and water consumption monitoring are not required pursuant to Section 131(e) (which addresses environmental and health-related emissions), such monitoring will be required, as appropriate, by separate terms of a Project's Financial Assistance Agreement.

Environmental monitoring pursuant to Section 131(e) shall include Compliance Monitoring and, as appropriate, Supplemental Monitoring. Compliance Monitoring, whose fundamental purpose is to fulfill the Sponsor's regulatory obligations, is included as part of Section 131(e) environmental monitoring because the results of such monitoring are necessary both to provide the Corporation with a broad information base that is relevant to replication of

synthetic fuels projects and to provide the basis for evaluating the proper scope of Supplemental Monitoring. Each Sponsor should perform Supplemental Monitoring to provide information not provided by Compliance Monitoring, such as the types and amounts of certain unregulated substances emitted from a synthetic fuel plant.<sup>1</sup> The Sponsor should integrate Compliance and Supplemental Monitoring activities to create a sound monitoring program during the life cycle of the synthetic fuels Project.

The Corporation requires that the Environmental Monitoring Plan be developed in two stages. During the first stage, the Sponsor is required to develop an Environmental Monitoring Outline in consultation with the Consulting Agencies. This Outline, which should contain a general description of the Sponsor's monitoring tasks, must be found acceptable by the Corporation and, for those Projects receiving financial assistance, will be incorporated into the Financial Assistance Agreement. During the second stage, the Sponsor is required, by a date to be fixed in the Financial Assistance Agreement, to develop an Environmental Monitoring Plan in consultation with the Consulting Agencies. This Plan should contain a detailed description, based upon the terms of the Outline, of the specific monitoring tasks to be undertaken in connection with the Project and must also be found acceptable by the Corporation.

#### V. Developing Environmental Monitoring Outlines and Plans

##### A. General

To promote the timely development of sound Environmental Monitoring Outlines and Plans, with meaningful input from the Consulting Agencies, the procedural approach set forth below should be used in developing and reviewing Environmental Monitoring Outlines and Plans. In implementing these procedures, several general points relating to the consultation process should be made:

- While the Corporation has the ultimate statutory responsibility for making acceptability determinations, the Corporation regards the Consulting Agencies' opinions and comments as

fundamental to the development of an acceptable Outline and Plan.<sup>2</sup>

- Early meetings between the Sponsor and Consulting Agencies, and communications between them throughout the process of developing an Outline and Plan, are inherent to the Section 131(e) consultation process. At the same time, the Sponsor should bear in mind that it has the responsibility for developing its Outline and Plan and it should not unduly burden the Consulting Agencies in this effort.

- When a Sponsor has already begun to develop its Outline in consultation with the Consulting Agencies, repetition of the procedural steps set forth herein are not required to the extent they have already been effectively performed.

- To maximize coordination among the parties to the process—the Sponsor, the Consulting Agencies, and the Corporation—courtesy copies of all formal communications (draft and revised Outlines and Plans and all correspondence, including Consulting Agency comments and Sponsor's responses) from any party should be provided simultaneously to all other parties.

##### B. Contents of Outlines and Plans

An Environmental Monitoring Outline should be a general description of the Sponsor's Compliance and Supplemental Monitoring tasks. In the Outline, the Sponsor should: (1) Attach the monitoring requirements found in permits which it has already obtained or provide a summary of these requirements; (2) discuss the anticipated monitoring requirements (based on the terms of Comparable Permits) for permits not yet obtained; (3) state what substances will be monitored (both regulated and unregulated); and (4) indicate the general location where the monitoring will take place (i.e., source, ambient, or workplace), the general type of monitoring to be performed (such as high-volume sampler or personal dosimeter), and the approximate duration of monitoring tasks.

The Environmental Monitoring Plan should be a detailed description of the monitoring tasks set forth in the Outline. The Plan should include all of the specific monitoring terms and conditions of permits and other approvals, and the specific monitoring tasks relating to

Supplemental Monitoring, including sampling, protocols, monitoring site locations, monitoring frequency, monitoring equipment, analytical methods, etc.<sup>3</sup> The Plan should also provide specific details on the duration of each monitoring task. Like the Outline, the Plan should also state what substances will be monitored; if a more detailed list of substances is available at this stage than when the Outline was prepared, such additional detail should be provided. Similarly, if more details are available on Compliance Monitoring requirements, these should also be provided in the Plan.

In developing its Outline and Plan, if the Sponsor is unable to identify the specific unregulated substances which may be of significant environmental or health concern, the Sponsor should provide a list of the classes of substances (e.g., phenols, polynuclear aromatic hydrocarbons, organic sulfur compounds) likely to be present in various emissions, liquid wastes, or solid wastes and the method(s) by which the specific substances within these classes will be identified and monitored.

In both the Outline and Plan, the Sponsor should provide, as appendices, sufficient background information on its Project to enable the Consulting Agencies to evaluate meaningfully the Outline and the Plan. This information should include an overall process description, a process block flow diagram, plot plans and layouts, and a detailed site description. The Sponsor should also make available to the Consulting Agencies and the Corporation studies, reports, data, etc., which are specifically referenced in the Outline or Plan and/or otherwise used to support the Sponsor's monitoring program.

Neither the Outline nor the Plan need be in any particular format, although both should clearly indicate which monitoring tasks fulfill Compliance Monitoring requirements and which represent Supplemental Monitoring. The Sponsor can tailor the format of its Outline and Plan according to its own needs, but consideration should be given to the comments of the Consulting Agencies regarding format.

<sup>1</sup> EPA has prepared a monitoring reference manual for synthetic fuels processes ("Environmental Monitoring Reference Manual for Synthetic Fuels Facilities," EPA Document 600/3-83-027, July 1983) which indicates EPA's areas of interest. This manual contains no monitoring requirements, rather, it is a technical reference document which may be used by drafters and reviewers of Environmental Monitoring Plans.

<sup>2</sup> Sponsors may provide in their Outlines details on any or all aspects of environmental monitoring that are at a level of specificity not required in an Outline but appropriate for a Plan. However, the Corporation's acceptability determination regarding the Outline will be based solely on whether the requirements for an Outline have been met.

<sup>3</sup> The Corporation has previously notified Sponsors that they must consider the monitoring of unregulated substances. (See, e.g., the Corporation's Second Solicitation Section, Section IV.B.1, and Third Solicitation Section, Section III.B.2.)

### C. Development of Outlines

The following is the sequence of steps which should be followed in developing Environmental Monitoring Outlines:

- For a Project proposal submitted under the Corporation's first three General Solicitations (or any future comparable solicitation), the Sponsor should initiate preparation of its Outline no later than immediately after passing the Corporation's strength review. If the Sponsor submits a proposal under a "Competitive Solicitation," the technical proposal should include a schedule for preparing an acceptable Outline; the schedule should provide for immediate initiation of Outline preparation if the technical proposal is found acceptable by the Corporation.

- The Sponsor's draft Outline should be submitted to the Consulting Agencies for their review and comment. (The Corporation will notify the Sponsor as to which Consulting Agency officials to contact.) The Sponsor should confer with the Corporation regarding the timing of submission of the draft Outline (as well as the revised Outline) so that an acceptable Outline can be prepared on a schedule consistent with the anticipated Financial Assistance agreement execution date.

- Consulting Agencies should provide written comments expeditiously to the Sponsor on the draft Outline. It is expected that, absent special circumstances, such comments will be provided within five weeks of receiving the draft.

- In responding to the comments of the Consulting Agencies, the Sponsor should prepare a revised Outline and/or should explain (in a cover letter to the Corporation) the specific reason(s) for not including any specific monitoring task suggested by the Consulting Agencies, as well as for not including monitoring in areas covered in the Guidelines.

- The Sponsor's revised Outline and other material submitted in response to the Consulting Agencies' comments should be submitted to the Consulting Agencies for final review.

- Absent special circumstances, the Consulting Agencies should submit to the Corporation their comments on the revised Outline within four weeks of receiving it.

- The Corporation will evaluate the revised Outline and the Consulting Agency comments and will determine the Outline's acceptability. (See Section VI. Determination of Acceptability.)

### D. Development of Plans

The sequence for developing an Environmental Monitoring Plan,

including the time periods for Consulting Agency comments, is analogous to that for an Outline set forth above. In brief, the Sponsor develops a draft Plan; it will be reviewed and commented on by the Consulting Agencies; a revised Plan and/or responsive comments will be prepared; final comments will be provided by the Consulting Agencies; and the revised Plan and comments thereon will be evaluated by the Corporation, which will make a determination as to its acceptability.

Each Financial Assistance Agreement will establish a date by which the Sponsor shall submit its final Environmental Monitoring Plan. It is anticipated that the Plan will be required approximately six months after the Financial Assistance Agreement is signed, depending on the complexity of the Plan and other Project-specific circumstances. Following the Plan's submittal, it must be found acceptable by the Corporation within a time fixed in the Financial Assistance Agreement (approximately two months from submission).<sup>4</sup>

### VI. Determination of Acceptability

The Corporation will determine the acceptability of an Environmental Monitoring Outline and Plan by evaluating whether the Sponsor has, through its specific treatment of the substantive areas set forth in these Guidelines, developed a sound monitoring program. This evaluation will be performed in the context of the Corporation's overall environmental monitoring goal of identifying and characterizing areas of concern and developing an information base for the mitigation of problems associated with the replication of synthetic fuels projects.

Specifically, in determining acceptability, the Corporation will consider whether the Sponsor has, in the level of detail appropriate to the Outline or the Plan: (1) Included all known and anticipated Compliance Monitoring tasks; (2) included an appropriate list of unregulated substances or classes of substances to be monitored; (3) proposed monitoring frequencies, locations, methods, and durations which are adequate to produce a statistically valid body of data; (4) developed satisfactory worker exposure and monitoring surveillance programs and provided for the development of a Worker Registry; (5) provided for a sound Quality Assurance/Quality

Control (QA/QC) program; (6) proposed an adequate reporting and data management program; and (7) committed to performing other monitoring should circumstances indicated that it is warranted, e.g., ecological monitoring and monitoring of possible public nuisances.

In determining the acceptability of both Outlines and Plans, the Corporation will consider the Consulting Agencies' comments and monitoring recommendations and the Sponsor's responses to these comments and recommendations. The Corporation will also consider the costs to the Sponsor of monitoring relative to the potential usefulness of this information.

For Projects receiving financial assistance, an Environmental Monitoring Outline found to be acceptable by the Corporation will then be incorporated into the Financial Assistance Agreement. As a general rule, if the Corporation does not find a Sponsor's Outline to be acceptable, it will not enter into a Financial Assistance Agreement until the Outline is made acceptable. With respect to Environmental Monitoring Plans, failure to submit an acceptable Plan as required by Section 131(e) (as well as failure to properly implement Plans determined to be acceptable by the Corporation) will be addressed under the default and remedy provisions of the Financial Assistance Agreement.

### VII. Scope of Monitoring

#### A. General

Sponsors should monitor during all phases of a Project's life cycle: pre-construction (baseline), construction, operation, and post-operation (facility shut-down and site reclamation). Generally, Compliance Monitoring will be performed during each phase, while Supplemental Monitoring will be applicable primarily to the operational phase of the facility.<sup>5</sup>

#### B. Compliance Monitoring

A Sponsor's Compliance Monitoring activities are determined by the Project's permit requirements and other regulatory obligations. The Guidelines do not alter, or require duplication of, any Compliance Monitoring activities. Any change in permit conditions or other Compliance Monitoring requirements occurring after an Outline or Plan has been approved by the

<sup>4</sup> Where monitoring activities, e.g., baseline or construction monitoring, are to be initiated prior to a determination of Plan acceptability, the Outline should indicate when this monitoring will begin.

<sup>5</sup> Generally, Supplemental Monitoring during the operational phase would be performed during steady-state conditions; however, limited Supplemental Monitoring may be required for non-steady-state conditions if significant emissions could occur, such as during a start-up period.



Corporation will automatically change the Outline or Plan accordingly.

### C. Supplemental Monitoring

Supplemental Monitoring should be performed by the Sponsor when such monitoring can produce environmental and health data, not otherwise required by Compliance Monitoring, which are relevant to project replication, i.e., data which are applicable to synthetic fuel facilities that may be built in the future using comparable technology or in the same vicinity or in similar settings. In developing its Supplemental Monitoring program, the Sponsor should address as appropriate the generic areas specified in Section D (Substantive Monitoring Areas) which include:

- Identification and characterization (i.e., determining the concentration) of unregulated substances, such as certain trace metals and hydrocarbons, which may be present at levels of significant health and environmental concern, e.g., concentrations which could result in (1) health effects such as carcinogenesis, mutagenesis, teratogenesis, reproductive effects, and other systemic disorders, and (2) environmental effects such as significant impacts on terrestrial and aquatic species.<sup>6</sup>

- Assessment of occupational exposures by performing industrial hygiene monitoring, conducting comprehensive medical surveillance of workers, and establishing a Worker Registry.

- Ecological monitoring where warranted based on the results of Ambient Monitoring (and not otherwise required by permit).

- Public nuisance monitoring (e.g., monitoring of noise and odor).

In identifying and characterizing unregulated substances, the Sponsor is encouraged to consider a two-phased approach. The purpose of the first phase is to identify the substances or groups of substances which are released from a Project, utilizing survey analytical techniques, such as gas chromatography/mass spectroscopy. Using the results of the first phase, monitoring will be redirected in the second phase for the purpose of providing detailed data (e.g., quantities and/or concentrations) on selected substances which are of significant

environmental or health concern.

(During phase two, some changes in anticipated monitoring tasks may be appropriate; see Section XI.B.2.

"Modification of Monitoring Requirements").

In addition, the Sponsor should consider the following points in developing Supplemental Monitoring tasks in its Outline and Plan:

- The Sponsor's Supplemental Monitoring need not include monitoring which is relevant essentially to a specific Project at a specific site unless such monitoring has broader applicability to Project replication. (However, such site-specific monitoring, if required by permit, would be included as Compliance Monitoring in the Outline and Plan.)

- The Sponsor's Supplemental Monitoring need not include monitoring of unit operations which are common to established industries and which have already been well characterized with regard to unregulated substances, e.g., certain coal preparation operations.

### D. Substantive Monitoring Areas

As part of a Sponsor's monitoring program (Compliance and Supplemental Monitoring), three generic areas of environmental and health monitoring—source, ambient, and workplace—should be performed. Additional monitoring, such as ecological monitoring, may also be appropriate in some cases.

#### 1. Source Monitoring

- For air emission Source Monitoring, the Sponsor should monitor, as required by permit, for regulated substances, including those covered under applicable New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants (NESHAPs), etc., as well as for unregulated substances which may be emitted in concentrations of significant environmental or health concern.<sup>7</sup>

- For wastewater effluent Source Monitoring, including underground releases and releases into publicly owned treatment works (POTWs), the Sponsor should monitor, as required by permit, for regulated substances including those in NPDES permits or specified by EPA "consent decrees," as well as for unregulated substances which may be discharged in concentrations of significant

environmental or health concern. The Sponsor should perform Supplemental Monitoring with regard to wastewater being discharged into POTWs if these facilities are not subject to monitoring requirements under the National Pollutant Discharge Elimination System (NPDES).

- For solid and hazardous waste monitoring, the Sponsor should monitor such wastes pursuant to the requirements of the Resource Conservation and Recovery Act, as well as for unregulated substances which may be present at concentrations of significant environmental or health concern. The Sponsor need not perform on-site Supplemental Monitoring with regard to solid and hazardous wastes shipped to off-site facilities which is redundant to monitoring required of operators of these facilities.

#### 2. Ambient Monitoring

- For ambient air monitoring, the Sponsor should monitor, as required by permit, those pollutants identified in EPA's PSD and NESHAP regulations, and applicable state regulations, as well as for unregulated substances which, based on projections or the results of source monitoring, have a reasonable likelihood of being emitted to the unconfined environment and could result in concentrations of significant environmental or health concern.

- Where the Project will be discharging into surface waters, the Sponsor should monitor, as required by permit, regulated water quality parameters and pollutants as well as for unregulated substances which, based on projections or the results of source monitoring, have a reasonable likelihood of being discharged in concentrations of significant environmental or health concern.

- Where substances have the potential to impact groundwater, the Sponsor should conduct groundwater monitoring to identify contamination from leachates, discharges, or underground injection. Groundwater monitoring includes monitoring as required by the Safe Drinking Water Act, the Resource Conservation and Recovery Act, etc., as well as for unregulated substances which have a reasonable likelihood of being present in concentrations of significant environmental or health concern.

- Where substances come into contact with the soil and have the potential to contaminate it, the Sponsor should monitor such soil for regulated substances as required by permit, as well as for unregulated substances which have a reasonable likelihood of

<sup>6</sup> The Corporation views unregulated substances as including those substances not presently regulated under any law and those which may be regulated under one law but not another. For example, a substance may be regulated under the Occupational Safety and Health Act but not regulated under the Clean Water Act; monitoring for such a substance in the water would be a "Supplemental Monitoring" requirement, but in the workplace would be a "Compliance Monitoring" requirement.

<sup>7</sup> When Project emissions are determined to be below those levels for triggering permit-mandated monitoring (notably for prevention of significant deterioration (PSD) review), monitoring to determine the actual level of emissions (vis-a-vis calculated levels) of regulated substances should be performed where necessary to develop a data base relevant to Project replication. It is expected that such monitoring would be of short duration.



being present in concentrations of environmental or health concern.

### 3. Worker Health and Safety Monitoring: Worker Registries

- The Sponsor should monitor potentially hazardous substances or conditions at the Project during routine work, maintenance, repair, and sampling activities throughout construction, operation, and decommissioning of the facility as required by the Occupational Safety and Health Administration and any other relevant regulatory agency. The Sponsor should also monitor for unregulated substances which may be present at concentrations of significant health concern in the workplace during operation.

- The Sponsor should develop and maintain a Worker Registry for the life of the Project. The Registry should include information from medical and work histories, physical examinations and industrial hygiene exposure records, and demographic and job category data. Registries should provide information which can be used to determine if health impacts, when identified in workers, are related to various substances or conditions to which workers had been exposed at the Project. The Specific areas covered by the Registry should relate to the known and suspected health concerns associated with the Project and its technology. The Sponsor should work with Consulting Agencies to promote commonality of Worker Registry format for each synthetic fuel technology and to develop the method by which the confidentiality of workers' identities will be protected.

### 4. Other Monitoring

- The Sponsor should commit to performing ecological monitoring in the event that substances emitted from the Project demonstrate the potential (based on Ambient Monitoring data) to significantly impact terrestrial and aquatic species; however, unless required by Compliance Monitoring, such monitoring should be performed only if the collection of such ecological data would allow the identification and characterization of areas of concern and develop an information base for the mitigation of problems associated with the replication of synthetic fuels plants in the same vicinity or in similar settings.

- The Sponsor should also commit to the monitoring of possible public nuisances, such as noise and odor, in the event that it becomes necessary to address public complaints.

### VIII. Quality Assurance/Quality Control

The Environmental Monitoring Outline and Plan should indicate what Quality Assurance/Quality Control (QA/QC) measures will be taken to assure that environmental and health monitoring data produced will be sound. The Outline should briefly indicate the Sponsor's proposed QA/QC program while the Plan should establish the specific requirements of a comprehensive QA/QC program.<sup>9</sup>

### IX. Data Management: Reporting Requirements

The Sponsor should develop a data management program, in consultation with the Consulting Agencies, that addresses the acquisition, storage, retrieval, analysis, and reporting of the monitoring data for the life of the Project. The Sponsor should permanently retain all monitoring records; alternatively, the Sponsor should make the records available to the Corporation for archiving, with the exception of proprietary information, or dispose of them with the written consent of the Corporation. The basic approach for the data management program should be indicated in the Outline and the details of the program should be fully described in the Plan.

The Sponsor should submit to the Corporation quarterly and annual reports containing information, summaries, and analyses as indicated below:

- Quarterly reports should:
  - Contain summaries of the environmental and health monitoring data collected during the prior quarter.
  - Identify and characterize the unregulated substances present at concentrations of significant environmental and health concern.
  - Contain copies of all compliance reports and analyses sent by Sponsors to the regulatory agencies during the prior quarter.
  - Describe the Project's permit compliance status, including a description of any significant changes to the terms of permits and notices of violation issued to the Sponsor from the regulatory agencies.
  - Identify potential problem areas encountered during the prior quarter, e.g., problems with monitoring techniques/procedures, sampling,

quality control, etc., and indicate actual, anticipated, or possible solutions.

- Recommend modification or deletion of Supplemental Monitoring tasks not yielding useful data, including the basis for the recommendation.
- Annual reports should:
  - Contain the fourth quarterly report.
  - Summarize and analyze the monitoring information from all prior annual reports, the three prior quarterly reports, and the last quarterly report from the previous year, which shall include: (1) identifying trends and patterns in the data; (2) summarizing and interpreting data from the Worker Registry; and (3) correlating the concentration of unregulated substances being monitored with the operating conditions of the Project and the performance of environmental controls.<sup>10</sup>
  - Based upon monitoring data and the reports which have been submitted, indicated if there are any trends of environmental or health concern.
  - Indicate whether any of the problem areas identified in previous quarterly or annual reports have been resolved and, if not, what mitigation measures should be taken.

### X. Confidential Information

It is expected that, as a general rule, all monitoring data, data summaries, data analyses, reports, etc., provided to the Corporation by the Sponsor will not contain proprietary or otherwise confidential business information. Where certain types of monitoring data could reasonably contain proprietary information, these should be defined in the Environmental Monitoring Plan. Data will not be provided to federal or state agencies except as authorized by law and unless its confidentiality is protected.

The contents of all Environmental Monitoring Outlines and Plans (including drafts and revisions), all formal written comments of the Consulting Agencies on the Outlines and Plans, minutes of Monitoring Review Committee meetings, and all quarterly and annual reports will be publicly available.<sup>10</sup> Public information requests

<sup>9</sup> It is expected that the Sponsor will monitor the efficiency of environmental control systems for all Source Monitoring activities, where such monitoring generates proprietary information on such systems, the Sponsor shall provide non-proprietary summaries.

<sup>10</sup> Copies of these documents will be available in the Corporation's Public Reading Room. The Corporation encourages the Consulting Agencies to make these documents available, particularly in the area in which the Project is located.

<sup>9</sup> Federal guidelines on QA/QC are available from EPA and the National Institute for Occupational Safety and Health. See "Development and Validation of Methods for Sampling and Analysis of Workplace Toxic Substances," Research Report DHHS (NIOSH) Publication No. 80-133, September, 1982; "Interim Guidelines and Specifications for Preparing QA Project Plans," EPA Report No. QA-5-003/80, December 28, 1980.

will be handled in accordance with the Corporation's Guidelines on Disclosure and Confidentiality.

#### **XI. Monitoring Review Committees**

##### **A. Membership: Meetings**

Each Financial Assistance Agreement will establish a Monitoring Review Committee (the "Committee") consisting of representatives of the Sponsor, the Consulting Agencies, and the Corporation. The Corporation's representative will act as chairperson for the Committee. The Committee will meet, at a mutually convenient time and place, at least once per year, within two months after the issuance of the annual report.

##### **B. Functions**

1. **Data Review.** Each Monitoring Review Committee will review the Sponsor's environmental and health monitoring information, including its quarterly and annual reports. The main purpose of this review is to determine if there are any significant findings among the data, e.g., trends or patterns in pollutant releases from the Project which could result in significant health or environmental impacts. The Corporation shall prepare minutes of each meeting which summarize all Committee discussions, findings, and recommendations.

2. **Modification of Monitoring Requirements.** Based on the Committee's ongoing review of monitoring information, members of the Committee can recommend to the Corporation that: (1) Certain monitoring tasks be discontinued, modified or added;<sup>11</sup> (2) new analytical techniques or instrumentation be substituted; or (3) the format of the quarterly and annual reports be changed.

The Corporation, after consultation with all Committee members, will authorize such changes in Environmental Monitoring Plan requirements as are appropriate, after reviewing the reasons therefor. Normally, the Corporation will not require Supplemental Monitoring beyond that specified in the Plan unless the costs of the additional requirements have been, or are being, offset by the elimination of comparable costs.<sup>12</sup>

<sup>11</sup> Where production, process, pollution control, or feedstock changes occur that may reasonably be expected to affect Project emissions, monitoring tasks should be discontinued, modified, or added accordingly. However, modification of the Sponsor's Environmental Monitoring Plan shall have no effect on the Sponsor's monitoring responsibilities under federal, state, and local requirements.

<sup>12</sup> Offsets will not apply when monitoring tasks are modified or added because of changes in production, process, pollution control, or feedstock.

#### **XII. Amendments to Guidelines**

Amendments to these Guidelines may be authorized in writing by the Corporation. All Sponsors with projects before the Corporation at the time any amendment is made will be notified immediately of such amendment. Copies of these Guidelines, as amended, will be available in the Corporation's Public Reading Room.

Lee C. Axelrod,

Acting Executive Vice President, U.S.  
Synthetic Fuels Corporation.

October 6, 1983.

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GILLING CODES 8300-00-01

APPENDIX K

SUMMARY ENVIRONMENTAL DATA  
FOR THE COMMERCIALIZED TECHNOLOGY

## Appendix K

### REPORTING OF ENVIRONMENTAL DATA

The Department of Energy will evaluate the potential change in emission of various pollutants assuming a proposed technology is successfully demonstrated and thereafter applied to the maximum practical number of facilities by the year 2010. In order to facilitate such an evaluation, information must be submitted by the proposer, and consolidated in one location in the Business and Management Proposal (Volume III). - The proposer must use forms included at the end of this appendix. The summary information will relate to:

- o the technical and economic applicability of the commercial version of the proposed technology to new and retrofit markets.
- o the air, water, and solid waste emissions and water consumption from the proposed technology.

The summary applicability and environmental data must include information regarding the spectrum of commercialized applications. For technologies that produce a fuel or chemical for downstream use, data must also be submitted to characterize the extent of that use and the nature of emissions from that use, for the commercial applications.

#### Applicability Analysis

Identify technical and economic limitations to full application of the proposed technology to the potential marketplace. The potential marketplace is defined as all existing facilities engaged in similar activities (retrofit market) and all expected new facilities engaged in similar activities (new and replacement facility market) by the year 2010. For example, a sulfur dioxide abatement process could conceivably be applied to all existing and all new coal-fired powerplants. On the other hand, it may not be applicable to certain firing types. Similarly, powerplants which already have scrubbers would be an unlikely market for advanced SO<sub>2</sub> control technology. Economics have an obvious influence on the potential applicability of a technology. For purposes of this program, economic competition from existing technologies should be considered the basis for economic feasibility. Projections from Appendix L should be used as a starting point for estimating market growth and potential capacity in the year 2010.

Technical applicability may also relate to the location of the facility. For some technologies, the location significantly affects the process

feasibility. Evaporative techniques to treat water effluents are common in the arid west, for example, but are ineffective in the humid eastern states. Any technically imposed geographic limitations should be identified for the technology. Similarly, environmental regulations in certain locales might preclude deployment of a technology in a certain geographic area.

In addition to specifying economic and technical limitations where a technology is inappropriate, specify the magnitude of capacity applications where the technology is applicable, for the year 2010. Retrofit and new source applicability should be specified separately.

Section IV-2 of this Program Opportunity Notice provides additional direction regarding determination of applicability of a technology. The data reported on forms in this Appendix should be consistent with data reported elsewhere in the proposal pursuant to section IV-2.

#### Emissions estimates

Tabulate total emissions from the commercial facility. If the commercial facilities are expected to offer a range of emissions, due for example to use of a range of coals, then additional forms should be completed to provide representative data for major groups of expected facilities (e.g., low, medium, and high sulfur coals). For processes producing a fuel or chemical for subsequent use, the proposal must quantify emissions for the downstream consumption of that product. Identify the amount of product produced on an annual basis. Emissions for steady-state (normal) conditions and upset or malfunction conditions should be quantified separately along with annual totals.

Media/pollutant =====	Steam or elec. Generation =====	Coal Der- ived fuel =====	Industrial process/other =====	Downstream combustion =====
AIR				
SO2	x	x	x	x
NOx	x	x	x	x
Part. matter	x	x	x	x
Vol. org. cmpd.		x	x	
WATER				
TSS	x	x	x	x
Water consumption rate	x	x	x	x
SOLID WASTES				
Non-hazardous	x	x	x	x
Hazardous	x	x	x	x

Emissions are defined as in Title 40, Code of Federal Regulations, Parts 60.2, 60.42-44, and 423. Data should be reported in terms of mass flow (tons per year), concentration (ug/m3 for air, mg/l for water, none for solid wastes), weight per unit of product (e.g., pounds per MW-hr of electricity, pounds per million Btu of synfuel, pounds per ton of reduced iron), with the exception of water consumption. Water consumption should be reported in gallons per year and gallons per unit of product. For hazardous wastes, the proposal should identify and quantify the amount of each material resulting in designation of a waste stream as hazardous, as well as the basis for the determination of hazard. 40CFR261.11 will be used to define whether a material is hazardous.

The above data on any other pollutant not listed above which would reasonably be expected to have a significant environmental impact should also be included.

## ENVIRONMENTAL DATA FORMS

Forms for the submittal of summary applicability and environmental data are included in this section. Several different forms are provided in anticipation of specific types of projects. No single proposal is expected to use all of these forms. Separate forms are provided for new and retrofit applications; if either of those markets does not apply to the proposed technology, make a notation on the inapplicable form and submit it. If a commercialized technology will be used in generically different situations (e.g., low, medium, and high sulfur coals), complete additional forms for each major market sector. For processes producing a fuel or chemical for subsequent use, additional forms are provided related to such subsequent use. If a product has multiple markets (e.g., industrial fuel and residential fuel), complete additional copies of forms K-e and K-f for each generically different application. Proposers should use the following forms:

<u>Process category</u>	<u>Complete forms</u>
o Electric utilities and utility pollution control	K-a, K-b
o Industrial boilers and industrial boiler pollution control	K-a, K-b
o Coal preparation, liquefaction, gasification, and alternative fuel form or chemical production	K-c, K-d, K-e, K-f
o Industrial processes, other processes not included above	K-g, K-h

Using the appropriate forms, describe the proposed technology and state its cost. Identify the maximum potential market for the proposed technology in the year 2010, including the degree to which the total market is diminished by technical or economic constraints associated with the proposed technology. Quantify the market in terms of production units or capacity (e.g., megawatts of electrical generating capacity or tons of product produced per year).

=====

Table K-a: Commercial Unit New Source Data - Electric utility / IB Technology

=====

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_

3. Basic process description: \_\_\_\_\_

4. Market applicability: For each of the 9 cells below write in the % market penetration expected. For example, for each cell multiply the capacity you expect to capture by one hundred and divide by the total capacity for that size range.

Fuel sulfur (%)			Size			
Range	1.5	1.5-3.0	> 3.0	Range	Utility	Ind'l boiler
Small				Small	< 100 mw	< 100 mmBtu/h
Medium				Medium	100 - 400	100 - 250
Large				Large	> 400	> 250

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8 (size range, fuel sulfur): \_\_\_\_\_

6. Production capacity of representative unit: \_\_\_\_\_

7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_.

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

8. Emission data:  
MEDIA/pollutant

Total plant emissions, expressed in  
tons/year ug/ms or mg/l weight/product unit

-----			
AIR			
SO <sub>2</sub>	_____	_____	_____
NO <sub>x</sub>	_____	_____	_____
Particulate matter	_____	_____	_____
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====



=====

Table K-b: Commercial Unit Retrofit Data - Electric utility / IB Technology

=====

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_

3. Basic process description: \_\_\_\_\_

4. Market applicability: For each of the 9 cells below write in the % market penetration expected. For example, for each cell multiply the capacity you expect to capture by one hundred and divide by the total capacity for that size range.

Range	Fuel sulfur (%)			Range	Size	
	1.5	1.5-3.0	> 3.0		Utility	Ind'l boiler
Small				Small	< 100 mw	< 100 mmBtu/h
Medium				Medium	100 - 400	100 - 250
Large				Large	> 400	> 250

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8 (size range, fuel sulfur): \_\_\_\_\_

6. Production capacity of representative unit: \_\_\_\_\_

7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Emission data:

MEDIA/pollutant

Total plant emissions, expressed in

tons/year ug/m3 or mg/l weight/product unit

AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
WATER			
TSS			
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

=====

Table K-c: Commercial Unit New Source Data; Alternative fuel/chemical process

-----

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_
3. Basic process description: \_\_\_\_\_
4. List major market sectors which will have significantly different emission rates or emission reduction potential. \_\_\_\_\_
- 

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8: \_\_\_\_\_
6. Production capacity of representative unit: \_\_\_\_\_
7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_.

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

-----

Provide basic assumptions for market analysis: \_\_\_\_\_

-----

8. Emission data:

MEDIA/pollutant	Total plant emissions, expressed in		
	cons/year	ug/m3 or mg/l	weight/product unit
-----			
AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
Volatile organic compd	_____	_____	_____
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

=====

Table K-d: Commercial Unit Retrofit Data - Alternative fuel/chemical process

=====

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_

3. Basic process description: \_\_\_\_\_

4. List major market sectors which will have significantly different emission rates or emission reduction potential. \_\_\_\_\_

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8: \_\_\_\_\_

6. Production capacity of representative unit: \_\_\_\_\_

7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

8. Emission data:

MEDIA/pollutant	Total plant emissions, expressed in		
	tons/year	ug/m3 or mg/l	weight/product unit
-----			
AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
Volatile organic compd	_____	_____	_____
-----			
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
-----			
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
-----			
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

=====

Table K-e: Commercial Unit New Source Data - Downstream fuel/chemical use

=====

NOTE: If downstream use of a product is to fuel a utility or industrial boiler, use Form K-a, rather than this form.

1. Proposer: \_\_\_\_\_
2. Process Name: \_\_\_\_\_
3. Basic process description: \_\_\_\_\_
4. List major market sectors which will have significantly different emission rates or emission reduction potential. \_\_\_\_\_

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8: \_\_\_\_\_
6. Production capacity of representative unit: \_\_\_\_\_
7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

8. Emission data:

MEDIA/pollutant	Total plant emissions, expressed in		
	tons/year	ug/m3 or mg/l	weight/product unit
-----			
AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

Table K-f: Commercial Unit Retrofit Data - Downstream fuel/chemical use

=====

NOTE: If the downstream use of a product is to fuel a utility or industrial boiler, use Form K-b, rather than this form.

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_
3. Basic process description: \_\_\_\_\_
4. List major market sectors which will have significantly different emission rates or emission reduction potential. \_\_\_\_\_

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8: \_\_\_\_\_
6. Production capacity of representative unit: \_\_\_\_\_
7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Emission data:

MEDIA/pollutant	Total plant emissions, expressed in		
	tons/year	ug/m3 or mg/l	weight/product unit
-----			
AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

Table K-g: Commercial Unit New Source Data - industrial processes/other

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_  
 3. Basic process description: \_\_\_\_\_

4. List major market sectors which will have significantly different emission rates or emission reduction potential. \_\_\_\_\_

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8: \_\_\_\_\_  
 6. Production capacity of representative unit: \_\_\_\_\_  
 7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

8. Emission data:

MEDIA/pollutant	Total plant emissions, expressed in		
	tons/year	ug/m3 or mg/l	weight/product unit
-----			
AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
Volatile organic compd	_____	_____	_____
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

Table K-h: Commercial Unit Retrofit Data - industrial processes/other

=====

1. Proposer: \_\_\_\_\_ 2. Process Name: \_\_\_\_\_

3. Basic process description: \_\_\_\_\_

4. List major market sectors which will have significantly different emission rates or emission reduction potential. \_\_\_\_\_

For each applicable market identified in item 4 (above), include a separate copy of this form with items 5-8 (below) completed for a representative facility.

5. Describe market subsector addressed in items 6-8: \_\_\_\_\_

6. Production capacity of representative unit: \_\_\_\_\_

7. Potential penetration of proposed technology into this market subsector (express in absolute capacity in 2010): \_\_\_\_\_

Provide explanatory notes on parameters which reduce the technology's applicability. \_\_\_\_\_

Provide basic assumptions for market analysis: \_\_\_\_\_

8. Emission data:

MEDIA/pollutant	Total plant emissions, expressed in		
	tons/year	ug/m3 or mg/l	weight/product unit
AIR			
SO2	_____	_____	_____
NOx	_____	_____	_____
Particulate matter	_____	_____	_____
Volatile organic compd	_____	_____	_____
WATER			
TSS	_____	_____	_____
Water consumption rate	_____	N.A.	_____
SOLID WASTES			
Nonhazardous	_____	N.A.	_____
Hazardous	_____	N.A.	_____
OTHER SIGNIFICANT POLLUTANTS			

Include a brief description of hazardous wastes, consistent with directions in this appendix.

=====

## APPENDIX L

### ENERGY PROJECTION DATA

Note: Appendix L extends from  
page 3-30 (Table 3-3) through  
page 3-43 (Table 3-16) inclusive.



TABLE 3-3: REFERENCE CASE--U.S. FUEL PRICE SUMMARY BY SECTOR<sup>a)</sup>  
(1994 DOLLARS PER MILLION BTU)

YEAR	RESOURCE PRICES				DELIVERED PRICES												PHYSICAL UNITS							
	WORLD OIL PRICE (1964\$ /BBL)	RE-FINER CRUDE COST		MINE-HEAD COAL PRICE	RESIDENTIAL SECTOR				COMMERCIAL SECTOR				INDUSTRIAL SECTOR				TRANSPORTATION SECTOR							
		WELL-HEAD GAS PRICE	MINE-HEAD COAL PRICE		DISTIL- LATE	LI- QUID GASES	MAT- URAL GAS	ELEC- TRI- CITY	DISTIL- LATE	RESID. FUEL OIL	LI- QUID GASES	MAT- URAL GAS	COAL	ELEC- TRI- CITY	GASO- LINE	DIE- SEL	RESID. FUEL OIL	JET FUEL						
HIST. 1960	8.43	1.45	0.24	0.69	3.57	3.50	3.31	23.49	3.05	2.00	3.45	2.43	22.43	3.15	1.98	3.11	0.85	0.91	9.19	8.08	3.57	1.55	6.16	
1965	8.09	1.39	0.32	0.60	3.38	3.10	3.04	19.75	2.90	1.65	3.02	2.24	18.21	2.91	1.65	2.69	0.81	0.81	7.85	7.44	3.38	1.29	3.38	
1970	7.75	1.34	0.53	0.69	3.23	5.10	2.59	15.93	2.68	1.22	3.11	1.83	15.02	1.78	1.12	2.73	0.81	1.07	7.32	6.95	3.15	0.87	1.90	
1975	24.44	4.21	0.97	1.54	4.66	7.12	2.96	18.25	4.37	3.59	4.73	2.83	18.16	3.96	3.42	4.54	1.52	2.61	10.72	8.22	5.34	2.56	3.86	
1980	42.42	7.32	2.17	1.38	8.79	9.87	4.49	19.65	8.16	5.55	6.46	4.14	20.31	7.04	4.64	6.56	2.95	2.21	13.53	12.19	8.90	3.98	8.47	
ESTI. 1984	28.88	4.94	2.60	1.18	7.81	7.84	5.95	19.81	6.34	5.16	6.57	5.41	20.20	6.23	4.23	6.65	4.10	1.71	16.77	8.90	8.57	3.72	6.29	
PROJ. 1990	22.89	3.95	2.76	1.28	6.29	5.51	5.59	18.57	5.69	3.92	5.22	5.15	18.48	5.01	3.54	5.22	4.02	1.93	15.02	9.81	9.16	3.54	5.18	
1995	29.79	5.13	3.68	1.31	7.66	6.70	6.58	19.28	7.04	4.95	6.45	6.14	19.16	6.47	4.70	6.45	4.99	2.00	15.80	11.12	10.64	4.70	6.72	
2000	36.75	6.34	4.80	1.43	9.05	7.89	7.79	20.67	8.40	5.99	7.69	7.35	20.33	7.94	5.69	7.69	6.18	2.15	17.08	12.45	12.14	5.69	8.26	
2005	46.92	8.09	5.70	1.49	11.08	9.64	8.76	21.71	10.40	7.50	9.51	8.32	21.59	10.10	7.13	9.51	7.13	2.25	18.09	14.38	14.38	7.13	10.53	
2010	56.77	9.79	7.68	1.56	13.04	11.33	10.90	21.73	12.33	8.97	11.27	10.45	21.63	12.18	8.52	11.27	9.23	2.36	18.06	16.26	16.26	8.52	12.72	

YEAR	PHYSICAL UNITS																						
	PER BBL	PER BBL	PER MCF	PER TON	PER GAL	PER BBL	PER GAL	PER MCF	PER KWH	PER TON													
ESTI. 1984	28.88	28.63	2.66	25.54	1.08	0.74	6.13	0.068	0.88	32.44	0.62	5.58	0.069	0.86	26.59	0.63	4.23	41.43	0.057	1.11	1.19	23.39	0.85
PROJ. 1990	22.89	22.89	2.84	28.23	0.87	0.52	5.72	0.063	0.79	24.67	0.49	5.27	0.063	0.69	22.28	0.49	4.12	46.71	0.051	1.23	1.27	22.28	0.70
1995	29.79	29.79	3.78	28.97	1.06	0.63	6.74	0.066	0.96	31.13	0.61	6.29	0.065	0.90	29.57	0.61	5.11	48.34	0.054	1.39	1.48	29.57	0.91
2000	36.75	36.75	4.92	31.60	1.25	0.75	7.88	0.071	1.17	37.65	0.73	7.52	0.070	1.10	35.77	0.73	6.33	52.03	0.058	1.56	1.68	35.77	1.12
2005	46.92	46.92	5.85	32.93	1.54	0.91	8.97	0.074	1.44	47.17	0.90	8.52	0.074	1.40	44.81	0.90	7.31	54.44	0.062	1.80	1.99	44.81	1.42
2010	56.77	56.77	7.88	34.58	1.81	1.07	11.16	0.074	1.71	56.40	1.06	10.70	0.074	1.69	53.57	1.06	9.45	57.19	0.062	2.03	2.25	53.57	1.72

a) Projected delivered prices are resource prices plus estimated markups for processing and distribution.

b) U. S. average refiner acquisition cost of imported crude oil.

Figure 3-13

# U.S. ENERGY SOURCES AND USES — 1984 (IN QUADS) (GUIDE TO TABLES 3-4 THRU 3-13)

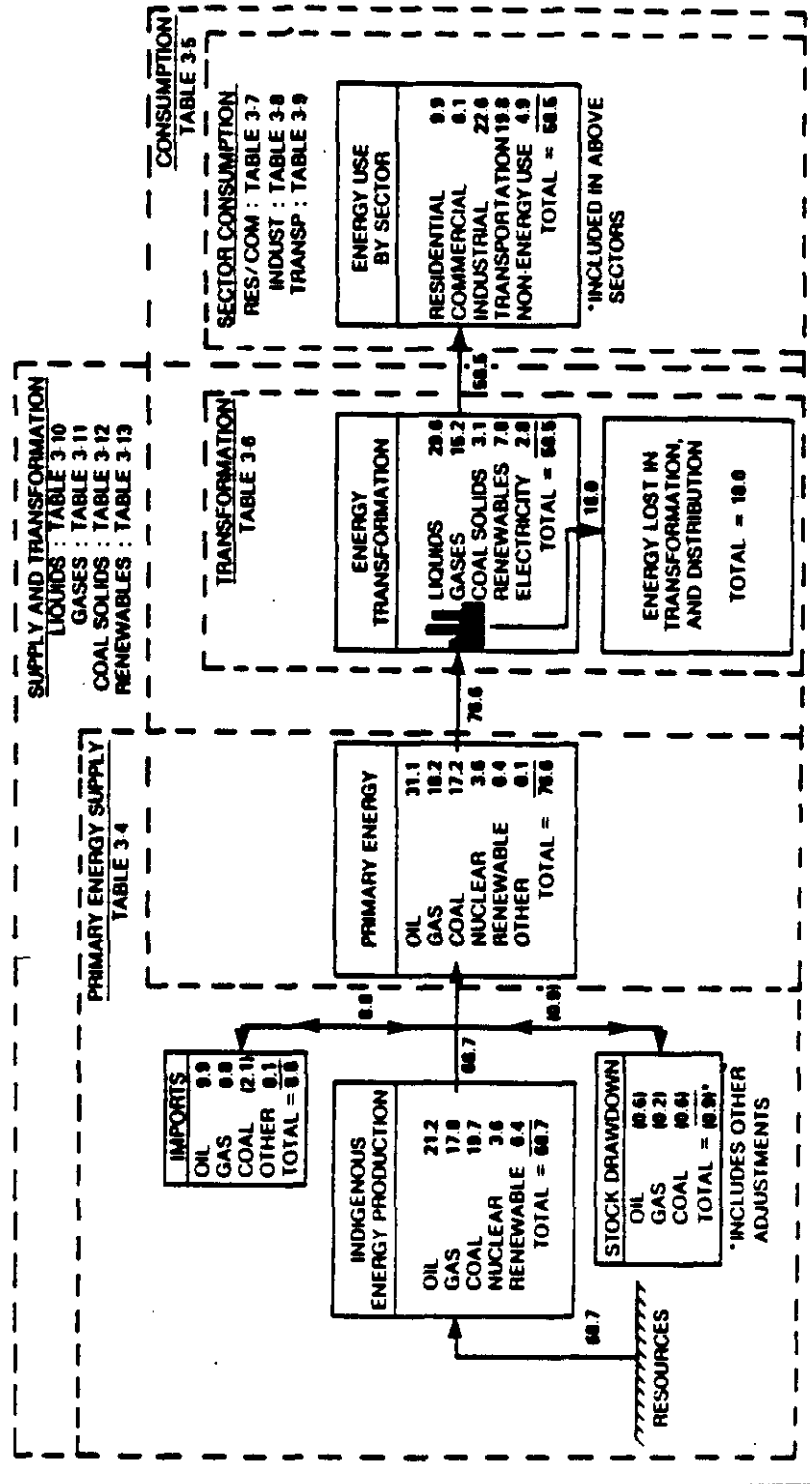


TABLE 3-4: REFERENCE CASE--PRIMARY ENERGY SUPPLIED TO THE U.S. ECONOMY (QUADS)

YEAR	INDIGENOUS ENERGY PRODUCTION					NET IMPORTS <sup>a)</sup>					ADJUSTMENTS <sup>b)</sup>					PRIMARY ENERGY SUPPLIED TO U.S. ECONOMY TOTAL
	OIL	GAS	COAL	NUCLEAR	RENEWABLE	TOTAL	OIL	GAS	COAL	OTHER <sup>c)</sup>	TOTAL	STOCK CHANGES				TOTAL
												OIL	GAS	COAL	OTHER <sup>d)</sup>	
HIST.																
1960	16.4	12.7	11.1	-	3.0	43.2	3.6	0.1	-1.0	-	2.7	0.1	-0.3	0.1	-0.3	-0.4
1965	18.4	15.8	13.4	-	3.4	51.0	5.0	0.4	-1.4	-	4.0	-	-0.2	-	-0.5	-0.7
1970	22.9	21.7	15.0	0.2	4.1	63.9	6.9	0.8	-1.9	-	5.8	-0.2	-0.4	-0.3	-0.5	-1.4
1975	20.1	19.6	15.2	1.9	4.8	61.6	12.5	0.9	-1.8	0.1	11.7	-0.3	-0.4	-0.7	0.3	-1.1
1980	20.5	19.9	18.6	2.7	5.3	67.0	13.5	1.0	-2.4	0.1	12.2	-0.3	-	-0.5	-	-0.9
ESTI.																
1984	21.2	17.8	19.7	3.6	6.4	68.7	9.9	0.8	-2.1	0.1	8.8	-0.6	-0.2	-0.6	0.5	-0.9
PROJ.																
1990	21.2	18.0	23.2	6.1	6.8	75.4	12.5	1.4	-2.2	0.2	11.9	-	-	-	-	-
1995	19.3	18.0	26.0	6.5	8.5	78.3	14.4	2.4	-2.4	0.3	16.7	-	-	-	-	-
2000	18.3	16.6	29.6	6.9	10.3	81.8	15.8	3.4	-2.7	0.3	16.8	-	-	-	-	-
2005	17.4	15.5	34.7	7.3	12.3	87.2	16.2	3.8	-3.3	0.3	17.0	-	-	-	-	-
2010	15.6	15.3	39.7	8.7	14.5	93.7	17.6	3.0	-3.8	0.3	17.1	-	-	-	-	-

PHYSICAL UNITS

YEAR	OIL			GAS			COAL			OTHER <sup>c)</sup>			TOTAL			STOCK CHANGES			TOTAL		
	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BPD	TRILL'N CU. FT.	MILLION TONS
ESTI.																					
1984	10.5	17.4	890	335	3.0	32.4	4.7	0.8	-80	0.1	4.2	-0.3	-0.2	-29	0.2	-0.4	-	-	-	-	-
PROJ.																					
1990	10.5	17.7	1058	570	3.2	35.6	5.9	1.4	-83	0.1	7.6	-	-	-	-	-	-	-	-	-	-
1995	9.5	17.7	1188	613	4.0	37.0	6.8	2.4	-92	0.1	7.0	-	-	-	-	-	-	-	-	-	-
2000	9.0	16.3	1353	652	4.9	38.6	7.4	3.4	-104	0.1	7.9	-	-	-	-	-	-	-	-	-	-
2005	8.4	15.2	1585	689	5.8	41.2	7.6	3.8	-125	0.1	8.0	-	-	-	-	-	-	-	-	-	-
2010	7.6	15.0	1806	819	6.8	44.3	8.3	2.9	-145	0.1	8.1	-	-	-	-	-	-	-	-	-	-

- a) Including Strategic Petroleum Reserve.  
b) Negative numbers indicate a reduction in energy supplied and positive numbers indicate an increase in energy supplied to the economy.  
c) Includes small amounts of coal coke and electricity.  
d) A balancing item. Includes unaccounted for oil, gas and coal private stock changes, losses, gains, miscellaneous blending components, unaccounted for supply and anthracite shipped overseas to U.S. Armed Forces.

TABLE 3-5: REFERENCE CASE--ENERGY CONSUMED BY THE U.S. ECONOMY (QUADS)

YEAR	PRIMARY ENERGY CONSUMED BY U.S. ECONOMY						ENERGY TRANS- PORTATION AND DISTRIBUTION LOSSES TOTAL	ENERGY USED BY FINAL CONSUMERS EXCLUDING INPUTS TO UTILITIES AND SYNTHETICS									
	OIL	GAS	COAL	NUCLEAR	RENEW- ABLE	NET ELEC- TRICITY IMPORTS		LIQUIDS	GASES	COAL SOLIDS	ELEC- TRICITY	RENEW- ABLE <sup>a)</sup>	TOTAL	RESI- DENTIAL	COM- MERCIAL	INDUS- TRIAL	TRANS- POR- TATION
HIST.																	
1960	19.9	12.4	10.1	-	3.0	-	5.9	19.3	10.6	5.9	2.4	1.3	39.5	7.2	3.5	18.3	10.5
1965	23.2	15.8	11.9	-	3.4	-	7.8	22.5	13.4	6.0	3.3	1.3	46.5	8.3	4.2	21.8	12.3
1970	29.5	21.8	12.6	0.2	4.1	-	11.5	27.4	17.7	5.4	4.8	1.4	56.7	10.0	5.6	25.3	16.0
1975	32.7	19.9	12.8	1.9	4.8	-	14.4	29.5	16.7	4.1	6.0	1.6	57.8	10.0	5.6	24.0	18.2
1980	34.2	20.4	15.4	2.7	5.3	0.1	17.3	31.6	16.6	3.3	7.2	2.3	61.0	9.9	6.0	25.3	19.7
ESTI.																	
1984	31.1	18.2	17.2	3.6	6.4	0.1	18.0	29.6	15.2	3.1	7.8	2.8	58.5	9.9	6.1	22.6	19.8
PROJ.																	
1990	33.8	19.4	21.0	6.1	6.8	0.2	22.1	32.3	16.7	3.8	9.1	3.3	65.2	10.8	7.2	28.2	19.2
1995	33.7	20.4	23.6	6.5	8.5	0.3	25.2	32.3	17.5	3.7	10.3	4.0	67.9	11.2	7.8	29.6	19.4
2000	34.1	20.1	26.9	6.9	10.3	0.3	28.0	32.9	17.4	3.9	11.5	4.8	70.6	11.3	8.4	30.4	20.7
2005	33.5	19.3	31.4	7.3	12.3	0.3	30.9	32.9	17.2	4.6	12.8	5.8	73.3	11.3	8.8	31.9	21.4
2010	33.2	18.2	35.9	8.7	14.5	0.3	34.5	33.0	16.8	5.4	14.3	6.9	76.3	11.2	9.4	33.5	22.3

PHYSICAL UNITS

YEAR	PHYSICAL UNITS										MILLION BOOE							
	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	MILLION BOOE	MILLION BOOE	BILLION KWH	MILLION BOOE	MILLION BOOE	MILLION BPD	TRILL'N CU. FT.	MILLION TONS	BILLION KWH	MILLION BOOE	MILLION BOOE				
ESTI. 1984	15.7	17.8	781	1.7	3.0	38	36.2	-8.5	15.0	14.9	117	2278	1.3	27.6	4.6	2.9	10.7	10.0
PROJ. 1990-2010	16.9	19.1	974	2.9	3.2	59	41.2	-10.4	16.2	16.4	167	2660	1.6	30.8	5.1	3.4	13.3	9.1
	16.8	20.0	1097	3.1	4.0	88	44.0	-11.9	16.1	17.1	165	3018	1.9	32.1	5.3	3.7	14.0	9.2
	16.9	19.7	1249	3.3	4.9	88	46.6	-13.2	16.3	17.1	172	3384	2.3	33.3	5.3	3.9	14.4	9.8
	16.5	18.9	1460	3.5	5.8	88	49.2	-14.6	16.2	16.9	203	3744	2.8	34.6	5.3	4.2	15.1	10.1
	16.4	17.9	1661	4.1	6.8	88	52.3	-16.3	16.7	16.4	234	4176	3.3	36.0	5.3	4.4	15.8	10.5

a) Renewable central electric is included in electricity column.

TABLE 3-6: REFERENCE CASE--ENERGY TRANSFORMATION IN THE U.S. ECONOMY  
(QUADS)

YEAR	ELECTRIC UTILITIES										SYNTHETIC FUELS										ENERGY TRANS- FOR- MATION/ DISTRIBU- TION LOSSES TOTAL
	ENERGY INPUT					ENERGY TRANS- FOR- MATION/ DISTRIBU- TION LOSSES	NET ELEC- TRICITY IMPORTS	SALES		ENERGY INPUT			TRANS- FOR- MATION LOSSES TOTAL	SALES			TOTAL				
	OIL <sup>a)</sup>	GAS	COAL	NUCLEAR	RENEW- ABLE			TOTAL	OIL	COAL		LIQUIDS		SNG	COAL GAS	TOTAL					
										FOR SYNTH. GAS	FOR SYNTH. LIQUIDS										
																		FOR SYNTH. GAS	FOR SYNTH. LIQUIDS		
HIST. 1960	0.6	1.8	4.2	-	1.7	8.3	-5.9	-	2.4	-	-	-	-	-	-	-	-	-5.9			
1965	0.8	2.4	5.8	-	2.1	11.1	-7.8	-	3.3	-	-	-	-	-	-	-	-	-7.8			
1970	2.1	4.1	7.2	0.2	2.7	16.3	-11.5	-	4.8	-	-	-	-	-	-	-	-	-11.5			
1975	3.2	3.2	8.8	1.9	3.2	20.3	-14.4	-	6.0	-	-	-	-	-	-	-	-	-14.5			
1980	2.6	3.8	12.1	2.7	3.0	24.3	-17.3	0.1	7.2	-	-	-	-	-	-	-	-	-17.3			
ESTI- 1984	1.3	3.2	14.1	3.6	3.6	25.7	-18.0	0.1	7.8	-	-	-	-	-	0.2	-	0.2	-18.0			
PROJ- 1990	1.4	2.9	17.1	6.1	3.5	30.9	-22.1	0.2	9.1	-	-	-	-	-	0.1	0.1	0.2	-22.1			
1995	1.4	3.0	19.7	6.5	4.5	35.1	-25.1	0.3	10.3	-	-	0.1	0.1	-	-	0.1	0.1	-25.2			
2000	1.3	2.8	22.6	6.9	5.5	39.1	-27.9	0.3	11.5	-	-	0.1	0.2	-	-	0.1	0.1	-28.0			
2005	1.0	2.2	26.0	7.3	6.4	43.0	-30.6	0.3	12.8	-	-	0.1	0.6	0.4	-	0.1	0.1	-30.9			
2010	0.9	1.8	28.9	8.7	7.5	47.8	-33.9	0.3	14.3	-	-	0.5	1.0	0.6	-	0.3	0.3	-34.5			

PHYSICAL UNITS

YEAR	MILLION BPD		TRILLION CU. FT.		MILLION TONS		MILLION BOE		BILLION KWH		MILLION BPD	MILLION TONS		MILLION BOE		TRILLION CU. FT.		MILLION BOE
	MILLION BPD	TRILLION CU. FT.	MILLION TONS	MILLION BOE	BILLION KWH	MILLION BOE	BILLION KWH	MILLION BOE	MILLION TONS	MILLION BOE		MILLION TONS	MILLION BOE	TRILLION CU. FT.	MILLION BOE			
ESTI- 1984	0.6	3.1	664	1.7	1.7	12.2	-8.5	36	2278	0.1	-	-	-	-	-	0.2	-	-8.5
PROJ. 1990 1995 2000 2005 2010	0.7	2.8	802	2.9	1.7	14.6	-10.4	59	2660	-	5	-	-	-	-	0.1	0.1	-10.4
	0.7	3.0	924	3.1	2.1	16.6	-11.9	88	3018	-	5	2	-	-	-	-	0.1	-11.9
	0.6	2.7	1059	3.3	2.6	18.5	-13.2	88	3304	-	5	11	-	-	0.1	-	0.1	-13.2
	0.5	2.1	1222	3.5	3.0	20.3	-14.5	88	3744	-	6	27	-	-	0.3	-	0.1	-14.6
	0.4	1.7	1355	4.1	3.6	22.6	-16.0	88	4176	-	24	46	-	-	0.4	-	0.3	-16.3

a) Includes petroleum coke.

b) Includes utility own use and transmission losses.



TABLE 3-8: REFERENCE CASE--U.S. ENERGY CONSUMPTION BY THE INDUSTRIAL SECTOR  
(QUADS)

YEAR	INDUSTRIAL																							
	ENERGY USE (Excluding Non-Energy Feedstocks)						NON-ENERGY USE <sup>b)</sup>						ENERGY AND NON-ENERGY USE											
	LIQUIDS		GASES		COAL SOLIDS		ELECTRICITY		RENEWABLE		TOTAL		LIQUIDS		GASES		COAL SOLIDS		ELECTRICITY		RENEWABLE		TOTAL	
	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER
HIST.																								
1960	4.0	5.6	4.6	1.1	0.7	16.1	0.7	1.0	1.7	0.4	0.1	2.2	5.7	6.0	4.7	1.1	0.7	18.3						
1965	4.4	7.0	5.3	1.5	0.9	19.0	0.9	1.5	2.4	0.3	0.1	2.8	6.8	7.3	5.4	1.5	0.9	21.8						
1970	4.7	8.8	4.7	2.0	1.0	21.2	1.1	2.0	3.1	0.7	0.2	3.9	7.8	9.5	4.9	2.0	1.0	25.3						
1975	4.8	7.8	3.7	2.4	1.1	19.8	1.1	2.3	3.4	0.7	0.1	4.2	8.2	8.5	3.8	2.4	1.1	24.0						
1980	5.3	7.8	3.1	2.8	1.4	20.5	1.0	3.1	4.1	0.6	0.1	4.8	9.5	8.4	3.2	2.8	1.4	25.3						
ESTI.																								
1984	4.1	6.2	2.8	2.9	1.8	17.8	1.0	3.0	4.0	0.8	0.1	4.9	8.1	7.0	2.9	2.9	1.8	22.6						
PROJ.																								
1990	6.5	7.8	3.5	3.5	1.8	23.2	1.0	3.0	4.0	0.9	0.1	5.0	10.5	8.7	3.6	3.5	1.8	28.2						
1995	6.3	8.4	3.4	4.1	2.2	24.3	1.1	3.2	4.3	0.9	0.1	5.3	10.6	9.3	3.5	4.1	2.2	29.6						
2000	5.7	8.4	3.6	4.7	2.6	24.9	1.1	3.3	4.4	1.0	0.1	5.5	10.1	9.3	3.7	4.7	2.6	30.4						
2005	5.1	8.2	4.4	5.4	3.0	26.1	1.2	3.5	4.7	1.0	0.1	5.8	9.8	9.3	4.5	5.4	3.0	31.9						
2010	4.6	7.9	5.1	6.3	3.4	27.3	1.2	3.7	4.9	1.1	0.1	6.2	9.5	9.0	5.2	6.3	3.4	33.5						

YEAR	PHYSICAL UNITS											
	MILLION BPD				TRILLION CU. FT.				MILLION BOOE			
	LIQUIDS		OTHER		LIQUIDS		OTHER		LIQUIDS		OTHER	
	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER	LIQUIDS	OTHER
ESTI.												
1984	2.0	6.1	115	841	0.8	10.7	4.2	6.80	118	841	0.8	10.7
PROJ.												
1990	3.2	7.7	147	1027	0.9	13.3	5.2	8.5	152	1027	0.9	13.3
1995	3.1	8.2	144	1189	1.0	14.0	5.2	9.1	148	1189	1.0	14.0
2000	2.8	8.2	151	1367	1.2	14.4	5.0	9.1	155	1367	1.2	14.4
2005	2.6	8.1	182	1582	1.4	15.1	4.9	9.1	186	1582	1.4	15.1
2010	2.3	7.8	213	1852	1.6	15.8	4.7	8.9	217	1852	1.6	15.8

a) Excludes generation, transmission and distribution losses.

b) Energy resources utilized in the manufacture of non-energy materials (asphalt, fertilizers, etc.).

TABLE 3-9: REFERENCE CASE--U.S. ENERGY CONSUMPTION BY THE TRANSPORTATION SECTOR (QUADS)

YEAR	TRANSPORTATION									
	LIQUIDS					GASES	COAL SOLIDS	ELECTRICITY <sup>b)</sup>	RENEWABLE	TOTAL
	HIGHWAY FUELS		JETFUEL	OTHER <sup>b)</sup>	TOTAL					
	GASOLINE	DIESEL								
1951	7.1	0.3	0.7	1.9	10.0	0.4	0.1	-	-	10.5
1960	8.3	0.6	1.2	1.7	11.8	0.5	-	-	-	12.3
1965	10.7	0.9	2.0	1.7	15.3	0.7	-	-	-	16.0
1970	12.5	1.3	2.0	1.8	17.6	0.6	-	-	-	18.2
1975	12.5	2.0	2.2	2.3	19.0	0.6	-	-	-	19.7
1980										
ESTI- 1984	12.5	2.1	2.4	2.3	19.3	0.5	-	-	-	19.8
PROJ- 1990	11.2	2.3	2.4	2.5	18.5	0.6	-	-	0.1	19.2
1995	11.0	2.6	2.4	2.5	18.6	0.6	-	-	0.2	19.4
2000	11.5	3.1	2.6	2.6	19.8	0.6	-	-	0.3	20.7
2005	11.5	3.5	2.6	2.6	20.2	0.6	-	-	0.6	21.4
2010	11.5	3.9	2.7	2.7	20.8	0.6	-	-	0.9	22.3

YEAR	MILLION BPD	MILLION BPD	MILLION BPD	MILLION BPD	MILLION BPD	TRILLION CU. FT.	MILLION TONS	BILLION CUB	MILLION BOOE	MILLION BOOE
ESTI- 1984	6.5	1.0	1.2	1.1	9.8	0.5	-	-	-	10.0
PROJ. 1990	5.9	1.1	1.2	1.3	9.4	0.6	-	4	0.1	9.1
1995	5.7	1.2	1.2	1.3	9.5	0.6	-	4	0.1	9.2
2000	6.0	1.5	1.3	1.3	10.1	0.6	-	4	0.1	9.8
2005	6.0	1.6	1.3	1.3	10.3	0.6	-	5	0.3	10.1
2010	6.0	1.8	1.3	1.4	10.6	0.5	-	6	0.4	10.5

a) Includes residual and non-highway distillate fuels.

b) Excludes generation, transmission and distribution losses.



TABLE 3-10: REFERENCE CASE--U.S. LIQUIDS SUPPLY AND TRANSFORMATION  
(QUADS)

YEAR	INDIGENOUS OIL PRODUCTION						ADDITIONAL SOURCES			PRIMARY OIL TOTAL	TRANSFORMATION			LIQUIDS USED BY FINAL CONSUMER TOTAL	TOTAL LIQUIDS SUPPLIED TO U.S. ECONOMY <sup>a)</sup>	
	CONVENTIONAL OIL			ENHANCED OIL RECOVERY	SHALE OIL	NATURAL GAS LIQUIDS	TOTAL	NET IMPORTS	STOCK CHANGES		OTHER <sup>b)</sup>	TO ELECTRICITY	SYNTHETICS			
	CONTINENTAL U.S.	ALASKA	NORTH ALASKA										TO GAS			FROM COAL
HIST. 1960	14.9	-	-	-	-	1.5	16.4	3.6	0.1	-0.2	19.9	-0.6	-	-	19.3	19.9
1965	16.5	0.1	-	-	-	1.9	18.4	5.0	-	-0.2	23.2	-0.8	-	-	22.5	23.2
1970	19.9	0.5	-	-	-	2.5	22.9	6.9	-0.2	-0.1	29.5	-2.1	-	-	27.4	29.5
1975	17.3	0.4	-	-	-	2.4	20.1	12.5	-0.3	0.5	32.7	-3.2	-	-	29.5	32.7
1980	14.0	3.4	0.8	-	-	2.3	20.5	13.5	-0.3	0.5	34.2	-2.6	-	-	31.6	34.2
ESTI. 1984	14.4	3.6	0.8	-	-	2.4	21.2	9.9	-0.6	0.6	31.1	-1.3	-0.2	-	29.6	31.1
PROJ. 1990	13.6	3.6	2.0	-	-	2.0	21.2	12.5	-	-	33.8	-1.4	-0.1	-	32.3	33.8
1995	11.7	3.7	2.2	-	-	1.7	19.3	14.4	-	-	33.7	-1.4	-	-	32.3	33.7
2000	10.9	3.8	2.2	-	-	1.4	18.3	15.8	-	-	34.1	-1.3	-	0.1	32.9	34.3
2005	10.3	4.1	1.8	0.1	0.1	1.1	17.4	16.2	-	-	33.5	-1.0	-	0.4	32.9	33.9
2010	8.9	3.8	1.5	0.4	0.4	1.0	15.6	17.6	-	-	33.2	-0.9	-	0.6	33.0	33.8

PHYSICAL UNITS

YEAR	MILLION BPD										MMBPD
	ESTI. 1984	PROJ. 1990	1995	2000	2005	2010	4.7	-0.3	0.8	15.7	
ESTI. 1984	6.7	1.7	0.4	-	1.7	10.5	4.7	-0.3	0.8	15.7	15.7
PROJ. 1990	6.4	1.7	0.9	-	1.4	10.5	5.9	-	0.5	16.9	16.9
1995	5.5	1.7	1.0	-	1.2	9.5	6.8	-	0.5	16.8	16.8
2000	5.1	1.8	1.0	-	1.0	9.0	7.4	-	0.5	16.9	17.0
2005	4.9	1.9	0.9	-	0.8	8.4	7.6	-	0.5	16.5	16.7
2010	4.2	1.8	0.7	0.2	0.7	7.6	8.3	-	0.5	16.4	16.7

a) Includes South Alaskan oil.

b) A balancing item. Includes unaccounted for private stock changes, losses, gains, miscellaneous blending components and unaccounted for supply. Accounts for refinery gains only in the physical units table, 1990-2010.

c) Primary oil plus synthetic oil from coal. Includes oil used to produce electricity and synthetic gas.

TABLE 3-11: REFERENCE CASE--U.S. GASES SUPPLY AND TRANSFORMATION  
(QUADS)

YEAR	INDIGENOUS PRODUCTION				ADDITIONAL SOURCES			PRIMARY GAS TOTAL	TRANSFORMATION				GAS USED BY FINAL CONSUMERS TOTAL	TOTAL GAS SUPPLIED TO U.S. ECONOMY <sup>f)</sup>
	CONVENTIONAL GAS		UNCONVENTIONAL GAS <sup>b)</sup>	TOTAL	NET IMPORTS <sup>d)</sup>	STOCK CHANGES	OTHER <sup>e)</sup>		TO ELECTRICITY	SYNTHETICS <sup>a)</sup>				
	CONTINENTAL U.S.	NORTH ALASKA								FROM OIL	FROM COAL	TOTAL		
HIST. 1960	12.7	-	-	12.7	0.1	-0.3	-0.1	12.4	-1.8	-	-	-	10.6	12.4
1965	15.8	-	-	15.8	0.4	-0.2	-0.3	15.8	-2.4	-	-	-	13.4	15.8
1970	21.7	-	-	21.7	0.8	-0.4	-0.2	21.8	-4.1	-	-	-	17.7	21.8
1975	19.6	-	-	19.6	0.9	-0.4	-0.2	19.9	-3.2	-	-	-	16.7	19.9
1980	19.9	-	-	19.9	1.0	-	-0.5	20.4	-3.8	-	-	-	16.6	20.4
ESTI. 1984	17.8	-	-	17.8	0.8	-0.2	-0.2	18.2	-3.2	0.2	-	0.2	15.2	18.4
PROJ. 1990	17.9	-	0.1	18.0	1.4	-	-	19.4	-2.9	0.1	0.1	0.2	16.7	19.6
1995	17.3	-	0.7	18.0	2.4	-	-	20.4	-3.0	-	0.1	0.1	17.5	20.5
2000	16.0	-	0.7	16.6	3.4	-	-	20.1	-2.8	-	0.1	0.1	17.4	20.2
2005	12.6	-	2.9	15.5	3.8	-	-	19.3	-2.2	-	0.1	0.1	17.2	19.4
2010	11.0	0.8	3.5	15.3	3.0	-	-	18.2	-1.8	-	0.3	0.3	16.8	18.6

PHYSICAL UNITS

YEAR	TRILLION CU. FT.											TCF		
ESTI. 1984	17.4	-	17.4	-	17.4	0.8	-0.2	-0.2	17.8	-3.1	0.2	-	14.9	18.0
PROJ. 1990	17.6	-	17.6	0.1	17.7	1.4	-	-	19.1	-2.8	0.1	0.1	16.4	19.2
1995	17.0	-	17.0	0.7	17.7	2.4	-	-	20.0	-3.0	-	0.1	17.1	20.1
2000	15.6	-	15.6	0.7	16.3	3.4	-	-	19.7	-2.7	-	0.1	17.1	19.8
2005	12.3	-	12.3	2.9	15.2	3.8	-	-	18.9	-2.1	-	0.1	16.9	19.0
2010	10.8	0.8	11.6	3.4	15.0	2.9	-	-	17.9	-1.7	-	0.3	16.4	18.2

- a) Synthetic gas is included in primary gas supply, 1960-1980.  
b) Includes South Alaskan gas.  
c) Includes gas from tight sands, Devonian shale, coal seams and geopressurized brines. Increment over 1984.  
d) Includes export of North Alaskan production as liquefied natural gas in 2010.  
e) A balancing item. Includes unaccounted for stock changes, losses, gains and supply.  
f) Primary gas plus synthetic gas from oil and coal. Includes gas used to produce electricity.

TABLE 3-12: REFERENCE CASE--U.S. COAL SOLIDS SUPPLY AND TRANSFORMATION  
(QUADS)

YEAR	INDIGENOUS PRODUCTION PRIMARY COAL PRODUCED TOTAL	ADDITIONAL SOURCES			PRIMARY COAL TOTAL	TRANSFORMATION		COAL SOLIDS USED BY FINAL CONSUMERS TOTAL	TOTAL COAL SOLIDS SUPPLIED TO U.S. ECONOMY <sup>b)</sup>
		NET IMPORTS	STOCK CHANGES	OTHER <sup>a)</sup>		TO ELECTRICITY	TO SYNTHETIC FUELS		
HIST. 1960	11.1	-1.0	0.1	-0.1	10.1	-4.2	-	5.9	10.1
1965	13.4	-1.4	-	-0.1	11.9	-5.8	-	6.0	11.9
1970	15.0	-1.9	-0.3	-0.2	12.6	-7.2	-	5.4	12.6
1975	15.2	-1.8	-0.7	0.1	12.8	-8.8	-	4.1	12.8
1980	18.6	-2.4	-0.5	-0.1	15.4	-12.1	-	3.3	15.4
ESTI. 1984	19.7	-2.1	-0.6	0.2	17.2	-14.1	-	3.1	17.2
PROJ. 1990	23.2	-2.2	-	-	21.0	-17.1	-0.1	3.8	21.0
1995	26.0	-2.4	-	-	23.6	-19.7	-0.2	3.7	23.6
2000	29.6	-2.7	-	-	26.9	-22.6	-0.4	3.9	26.9
2005	34.7	-3.3	-	-	31.4	-26.0	-0.8	4.6	31.4
2010	39.7	-3.8	-	-	35.9	-28.9	-1.6	5.4	35.9

PHYSICAL UNITS

YEAR	MILLION TONS				
	INDIGENOUS PRODUCTION	NET IMPORTS	STOCK CHANGES	OTHER <sup>a)</sup>	PRIMARY COAL TOTAL
ESTI. 1984	890	-80	-29	-	781
PROJ. 1990	1058	-83	-	-	974
1995	1188	-92	-	-	1097
2000	1353	-104	-	-	1249
2005	1585	-125	-	-	1460
2010	1806	-145	-	-	1661

a) A balancing item. Includes unaccounted for private stock changes, losses, unaccounted for supply and anthracite shipped overseas to U.S. Armed forces.  
b) Includes coal used to produce electricity and synthetic fuels.

TABLE 3-13: REFERENCE CASE--U.S. RENEWABLE ENERGY PRODUCTION AND CONSUMPTION  
(QUADS)

YEAR	INDIGENOUS PRODUCTION															PRIMARY RENEW- ABLES TOTAL	TRANSFORMATION		RENEW- ABLES USED BY FINAL CON- SUMERS TOTAL
	CENTRAL ELECTRICITY INPUTS					DISPERSED							TO CENTRAL ELEC- TRICITY	TO ALCOHOL FUELS					
	HYDRO/ GEOTH.	WOOD	SOLAR THERMAL	PHOTO- VOLTAIC	WIND	TOTAL	BIOMASS		ACTIVE SOLAR HEATING/ COOLING	AGRIC. INDUST. PROCESS HEAT	GEO- THERMAL	PHOTO- VOLTAIC			WIND		TOTAL		
							WOOD	OTHER <sup>a)</sup>											
HIST. 1960	1.7	-	-	-	-	1.7	1.3	-	-	-	-	-	-	-	1.3	-1.7	-	1.3	
1965	2.1	-	-	-	-	2.1	1.3	-	-	-	-	-	-	-	1.3	-2.1	-	1.3	
1970	2.7	-	-	-	-	2.7	1.4	-	-	-	-	-	-	-	1.4	-2.7	-	1.4	
1975	3.2	-	-	-	-	3.2	1.5	-	-	-	-	-	-	-	1.6	-3.2	-	1.6	
1980	3.0	-	-	-	-	3.0	2.2	-	-	-	-	-	-	-	2.3	-3.0	-	2.3	
ESTI. 1984	3.6	-	-	-	-	3.6	2.7	0.1	0.1	-	-	-	-	-	2.8	-3.6	-	2.8	
PROJ. 1990	3.5	-	-	-	-	3.5	2.9	0.2	0.1	0.1	0.1	-	-	-	3.3	-3.5	-0.1	3.3	
1995	4.0	0.2	-	-	0.3	4.5	3.2	0.3	0.1	0.2	0.1	-	0.1	-	4.0	-4.5	-0.2	4.0	
2000	4.5	0.3	-	-	0.7	5.5	3.6	0.5	0.1	0.3	0.2	-	0.1	-	4.8	-5.5	-0.3	4.8	
2005	4.8	0.3	-	0.2	1.1	6.4	3.8	0.9	0.1	0.4	0.3	0.2	0.1	0.2	5.8	-6.4	-0.6	5.8	
2010	5.1	0.3	0.1	0.7	1.4	7.5	3.9	1.3	0.2	0.5	0.5	0.5	0.2	0.5	6.9	-7.5	-0.9	6.9	

PHYSICAL UNITS

YEAR	MILLION BOOE										TOTAL	TO CENTRAL ELEC- TRICITY	TO ALCOHOL FUELS	TOTAL
	ESTI. 1984	PROJ. 1990	1995	2000	2005	2010	1.7	1.3	1.4	1.5	1.7	3.0	-1.7	1.3
1960	1.7	-	-	-	-	-	1.7	1.3	-	-	-	3.0	-1.7	1.3
1965	1.7	-	-	-	-	-	1.7	1.4	0.1	-	-	3.2	-1.7	1.6
1970	1.9	0.1	-	-	-	-	2.1	1.5	0.2	-	-	4.0	-2.1	1.9
1975	2.1	0.1	-	-	-	-	2.6	1.7	0.2	-	-	4.9	-2.6	2.3
1980	2.3	0.1	-	-	-	-	3.0	1.8	0.4	0.1	-	5.8	-3.0	2.8
1984	2.4	0.1	-	0.3	0.7	3.6	3.6	1.9	0.6	0.1	0.2	6.8	-3.6	3.3

a) Includes sewer and landfill gas, municipal and agricultural waste, and biomass alcohol inputs.

b) Included in renewables used by final consumers.

APPENDIX M

INTENTION TO PROPOSE FORM